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ORIGINAL ARTICLES.

THE SURGICAL ADVANTAGES OF THE BURIED ANIMAL SUTURE, AND ITS ADAPTABILITY TO SPECIAL PURPOSES.

Read in the Section on Surgery, at the Thirty-ninth Annual Meeting of the American Medical Association, May, 1888.

BY HENRY O. MARCY, M.D.,

OF BOSTON, MASS.

In the light of modern science old experiences and theories are to be viewed in a new way, and many facts are subject to an interpretation quite other than originally given. This is especially true in surgery in reference to the rôle of the suture. The introduction of antiseptic wound treatment has modified the use of the ligature and suture to a degree which renders possible results hitherto never attained.

A review of the principles of suturing necessarily involves a brief consideration of the ligature. Its application to arrest hæmorrhage seems so natural that it may be accepted as probable that it has been used from the earliest times of the race; certainly it was known to Hippocrates. Although frequent mention is made of the ligature by the earliest writers, it was considered a bold innovation when Ambrose Paré advocated the tying of vessels in amputations, and we can now understand why these teachings were received with so much doubt and later came near being rejected altogether. Even within our own times, it was applied in wounds which generally became septic, while the method of searing which it supplanted, by the very means used to prevent hæmorrhage, prevented, in large measure, septic poisoning.

In our own student days, the classic rule was to leave one end of the ligature of all large vessels long and, no matter how a wound was closed or dressed, this was to extend from the coapted parts. If several, they were supposed to serve a valuable purpose for drainage, and were intended to cause a sloughing of the constricted tissues and come away with them at the end, often, of many days or weeks.

Had Sir Joseph Lister done for the profession and the world no other service, his name should be handed down the generations for his admirable researches upon the ligation of vessels in amputations and especially in continuity. Others had indeed preceded him in the use of animal ligatures with excellent results, but their true mission could not be observed, except in aseptic wounds. Having excluded the ferments, Mr. Lister demonstrated that repair quickly supervened in a normal way, that the ligature soon underwent cell infiltration and was not thrown off, as formerly supposed necessary, as a foreign body. When his pupil in 1870, I observed that he practiced tying arteries, cutting the ligature short and closing the wound. He published, as early as April, 1869, an article in the *Lancet*, from which I quote:

"Thus the dead but nutritious mass had served as a *mould* for the formation of new tissue, the growing elements of which had *replaced* the materials absorbed, so as to constitute a living solid of the same form. . . . The two pieces of catgut which had been tied around the vessel at the distal part had become, as it were, fused together into a single fleshy band, inseparably blended with the external coat of the artery. The knots were nowhere discernible, and the only indication of the end which had been left long, at the time of the operation, was the presence of a black speck (the original material contained dark mineral impurities) here and there upon a delicate thread of cellular tissue in connection with the vessel. The cardiac ligature was in like manner continuous in structure with the arterial wall. The short ends had disappeared, but the massive knot was represented by a soft, smooth lump which appeared at first homogeneous except that it was speckled with dark particles as above referred to. On section, however, I discovered, in the interior of the mass and lying close to the wall of the artery, a small residual portion of the original knot, of comparatively firm consistence, and with the threefold twisted character of the cord plainly visible. It was quite distinct from the living tissue, so that it could be readily picked out from its bed with a pair of needles. Here almost all the original tissue had been removed, but it had served as a mould for the development of new tissue which had taken its place, and which retained the form of the mould in which it had grown."

He describes the microscopic appearances as follows: "A bit of the residue of the peritoneal thread having been teazed out with needles, in a drop of water presented, like a fresh piece of peritoneum, the wavy bundles of parallel fibres characteristic of perfectly developed fibrous tissue. Adhering to the surface of the remnant of the ligature was some soft opaque material, readily washed off with water, consisting of corpuscles of different forms, most of them caudate, or fibro-plastic, but some spherical, though not resembling those of pus; and, here and there, fragments of the original peritoneal tissue, affected more or less with interstitial cell development. At a short distance from the remains of the old thread, the fleshy material which had been formed at its expense proved to be a most beautiful example of fibro-plastic structure, the coarse fibres which mainly constituted it being composed of very large elongated cells, often containing several nuclei and presenting in their course branchings and thickenings of various forms. Here and there were some fibres more perfectly formed, and also cells of a more rudimentary character. Again, the band which had resulted from the organization of the two fine threads of catgut which, from the smallness of their bulk, had no doubt vanished early, having had longer time to perfect its structure, was a comparatively well developed form of fibrous tissue, consisting of coarse fibres rather than of elongated cells, being thus intermediate between the merely fibro-plastic material of more recent growth and the completed texture of the original thread."

These demonstrations were early verified by a number of competent observers, and yet, so far as I know, so strong was the influence of previous prejudices, methods, and teachings, that the rational deductions from such valuable investigations and experiments were not broadened and applied to sutures until, in my own experience, the result of an accident in 1871. In the case of a strangulated hernia, where the opening was very large, Dr. A. P. Clarke, of Cambridge, and I refreshed the ring and sewed it with catgut, in order to prevent the descent of omentum or intestine, because of cough a produced by a severe bronchitis from which the patient was suffering at time of injury. We had no thought of cure. This, however, followed without any complication, and the patient remained without recurrence until her death, which occurred six years later.

A thoughtful observer could not help profiting from such an experience. I reviewed the interesting studies and observations of Mr. Lister, instituted a careful series of experiments on animals, and later accidentally had the satisfaction of verifying the same, histologically, on the human subject. Upon these facts and deductions as fundamental, I established the operation for the cure of hernia by aseptic suturing of the refreshed parts in open wounds, and published the same in 1871, republishing with additional results in 1878 and 1881;[2] the priority of which, I believe, is not questioned by any, and this is the method now adopted by most operators in all countries.

The dissection is made as freely as required to secure intelligent operating. The sac, if at all large, is drawn down and its base sewed evenly across by a continuous double animal suture by a method which I devised years since and described as the shoemaker's stitch. This is easily effected by using a needle with the eye near the point, which is the only essential in the needle, although usually, for convenience, a long needle more or less curved is fixed in a handle. The needle, threaded, is introduced, unthreaded, threaded with the other end of the suture and then withdrawn, thus carrying with it through a single puncture the suture. In this way a stitch is made as a cobbler applies his thread from opposite ends through the same hole, and this is continued until the seam is complete, having only a single knot at the last stitch. The sac, if small, is returned thus sutured, if large, is cut off. Then, in a similar way, often using a needle of considerable curve, the refreshed structures of the ring are sewed together and, where there is sufficient tissue, a superficial layer is closed in the same manner, over this, and finally the skin. As I shall have occasion to show later, the skin also is advantageously coapted by a buried suture.

From this as a beginning, little by little, I have extended the application of buried suturing until I have treated wounds in nearly every part of the body by this method. First, very naturally, came the amputation of the breast and the coaptation of the deep structures. Here the stitch, as above described, admirably takes the place of the button suture, still generally used in heavy, thick flaps. It further serves as a hæmostatic in the careful coaptation of the parts and, by lessening the exudation, renders the use of drainage often unnecessary. Generally, even in large wounds, I do not use drainage, relying, in an *aseptic* wound, upon the easy absorption of any slight effusion. Of course, in such coaptation, where fixation and rest are required for only a brief space, a small aseptic animal suture is quite sufficient, and may be applied by any needle in varying stitch. However, I quite prefer the double suture as above described, because of the accuracy of adjustment and evenness of strain on the parts involved. In 1881, I first applied this method of suturing to the stump of the uterus in hysterectomy, and thereby was enabled to demonstrate the intraperitoneal treatment of the stump without danger of sloughing or hæmorrhage. About the same time, I commenced the sewing of the pedicle in ovarian cystoma in simi-

[1] Boston Med. and Surg. Journal, November, 1871, p. 315.
[2] Transactions of American Med. Assoc., 1878; Transactions of International Medical Congress, 1881.

lar way, and in both operations closed all free surfaces by a continuous glover suture taken through the peritoneum only. This was reported at the International Congress in London in 1881, and has since been ascribed to German authorities, but, so far as I have been able to learn, this is the first reference made to the subject.

The buried suture is one of the chief factors in my method of the restoration of the perineum. Believing that portion of the levator ani anterior to the anus, called the transversalis perinei, the part chiefly injured, which renders possible all the subsequent pathological changes in the vagina and uterus, I dissect the posterior portion of the vaginal attachment from the vulvar tissues and lift this forward, thus rendering it quite easy, with finger in rectum, to introduce deeply a curved needle. The tendon from the kangaroo, used in double stitch as before described, is preferred. In this way, as in no other, can the retracted ends of the transversali be brought together. Then the external wound is closed in continuous suture, and a double pin is often found useful to hold at rest, as in a splint, the parts without strain.

The abdominal wall in laparotomies for any cause is closed as in hernia, which is only a modified laparotomy; the peritoneum is first sewed and then the remainder of the wound is closed under irrigation. Since adopting this method the resulting cicatrix has been firm and unyielding. I have several times thus operated upon large umbilical hernias with perfect cure. I have used a buried suture with seeming advantage in resection of the pylorus, in one case, and in several cases of intestinal obstruction already reported.

Operations upon the rectum are little improved by any of our modern methods. In hemorrhoids it is true, the clamp and the use of the thermo-cautery are a great advance upon the older methods of ligature, and yet, only recently, in New York, was I shown by one of our best surgeons, an instrument by which the ligature might be more tightly applied and which he thought was better than the cautery. Both are certainly objectionable and the injection methods were gladly welcomed as improvements. These are in turn faulty, since often the tissues, which are important to remain uninjured, are destroyed and the parts to be retained are unaffected. Some years since I operated upon two cases of prolapse by the double suture as described, the results were excellent. More recently I have, in a number of cases, operated in ordinary hemorrhoid in the following manner:

After stretching the sphincter, with the fingers in the bowel, carefully cut through the skin at the junction of mucous membrane to the subjacent connective tissue, this, with a little care, can be done usually almost without loss of blood. In a somewhat similar way divide the mucous coat above the ectasic vessels. Sew with double continuous stitch, if need be, completely around the bowel and then cut away the mass. With a finer suture join the cut edges over the enclosed first line of suturing (the seam), and thus nicely coapt the parts. Iodoform in the rectum and a careful dusting from time to time lessens the danger of infection, and, if kept aseptic for a few hours only, renders, by cell infiltration, the wound soon free from danger of septic absorption. It is in reality a plastic operation and should be done with all the care of an operation on the face. The pain resulting from the operation is certainly far less than by other methods. The cure is effected in less time and the result is better than I obtained by other procedures. It is simple and easy to do and I commend it confidently to the profession. In varicoceles I tie the veins and seal with iodoform collodion.

The time and thought which many of us have spent upon devising surgical dressings to render the atmospheric contagion innocuous to wounds can hardly be estimated. All of this study and experience has been doubtless profitable and some of its fruitage yet valuable. However, given an aseptic wound, it is easy to retain it so, where drainage is not required, by sealing it with iodoform collodion. Thus treated, so far as prevention from infection is concerned, it matters little what external dressing is used. A number of days later the collodion scale can be separated from the skin, yet holding with it the upper border of each stitch, if taken in the ordinary way. These are separated at the line of the true skin, where the actively proliferating cells have infiltrated the suture and caused its absorption.

It somewhat recently occurred to me that this might be avoided and a gain made in safety and rapidity of repair, by burying even the sutures which coapt the skin. This is easily effected by using a blind stitch, generally best made with a straight needle, lightly but accurately including the connective tissue just beneath the skin from side to side. In this way the cut edges of the skin are brought evenly into apposition without the vestige of a stitch in sight. A layer of collodion completes the closure.

So far as I have been able to learn very little has been written upon this subject. At the late International Congress, Professor Vulliet contributed a paper upon the use of the Iodolised silk buried suture in perineorraphy. Thus prepared he claims they are innocuous and efficient. Silk can undoubtedly be made aseptic, but it is much more likely to prove an irritant than the tendon suture, and at the most is encysted, while the gut or tendon suture is replaced by connective tissue cells and there follows a living band in place of the fibres of the suture. It is evident, in most conditions, where sutures are required, if this can be attained, a great gain results. The possibilities of the buried suture are all dependent upon the great fundamental principles of aseptic surgery

which must be observed with the strictest accuracy. The material used must be reliable. I have for years, as a rule, prepared my own sutures, after Mr. Lister's formula, obtaining tendons directly from the hunters in Australia. Last year, in order to economize my rapidly diminishing stock of tendons, I used catgut, imported in the original bottles from a reliable English house, which appeared of excellent quality. In a series of operations performed within a few days, were two hysterectomies for the removal of large myomas. In each instance I sewed the uterine stump and closed the peritoneum with sutures from my former supply of tendon, but joined the recti with the English gut. In both cases, pus formed in the line of the gut suture, one recovered slowly with multiple local abscess in the thick abdominal wall; the second died the thirteenth day from systemic poisoning following a well marked lymphangitis. In neither was the abdominal cavity involved. One Alexander operation and one or two minor cases were also followed by suppuration which seemed attributable to the gut.

In all continuous suturing, emphasis should be made not to draw the thread tight, remembering that it is *apposition* not *constriction* sought. The blood supply must be lessened as little as possible. This is diminished at the best by the multiple cuts of the needle and must not be added to by ligation of the enclosed parts. Within a few hours cell proliferation supervenes and the sutures should lie at rest in the tissues.

Perhaps there is no better test of the aseptic skill of the operator than in the introduction of the suture. The greatest care should be used that the thread does not become contaminated by touching septic parts. In the perineum this is especially difficult. The parts should be surrounded by towels wet in sublimate and the irrigation be constant. Septic material on the suture may be deeply implanted into the tissues and most dangerous infection follow. This should be emphasized all the more since it seems almost the only objection which can be raised against the method and in incompetent hands may result in the most serious outcome. To restore the tissues, layer by layer, to their original continuity seems the highest perfection of the end sought. As in fractures of the osseous structures, restoration, fixation, and rest are the factors upon which the resultant depend; a truth to be equally emphasized in aseptic wounds.

THE MAN WITHOUT A LARYNX, whose case was noticed a short time ago, died on June 26. He was in the habit of going to the St. Louis Hospital to have the cannula cleansed. He attempted to cleanse the cannula himself, but symptoms of asphyxia and other complications set in, and he died in a short time.

DISCUSSION ON INTESTINAL SURGERY.

FOLLOWING THE PAPERS ON THE DIAGNOSIS, PATHOLOGY, PROGNOSIS AND TREATMENT OF PERICÆCAL ABSCESS, AND ON INTESTINAL SURGERY.

Read in the Section on Surgery at the Cincinnati Meeting of the Association.[1]

DR. EDMUND ANDREWS, of Chicago, expressed his appreciation of the valuable papers that had been read, and was ready to endorse much that had been said. He objected, however, to the too free resort to laparotomy in any cases, especially in diseases of the cæcum. Many of these affections will recover without resort to surgical interference. The abscess if left to itself will find an exit.

He reported a case in which a patient having advanced Bright's disease, of the cystic kidney form, complicated with advanced heart disease, developed an abscess below the umbilicus. Where it came from the doctor in attendance did not know. Finally the fæces began to discharge through the abscess opening. Exploration was resorted to. In following the fistulous opening of the abscess, the operator found that it passed through a mass of fat in the lower outer abdominal wall, then passed inward and upward toward the cæcum. Finding it to follow this course, he desisted from further operative procedure. The pus continued to be discharged; the fæcal discharge, however, ceased. But the patient died a short time after from the kidney disease. Had the patient been laparotomized, the speaker thought she would have died as soon if not in a shorter time.

DR. S. W. GROSS, of Philadelphia, being called upon for remarks, responded by saying:

I am very much handicapped here as I have not heard the papers or the discussion. From what Dr. Andrews has said, however, I judge that the question has been raised as to the propriety of laparotomy in cases of perforating appendicitis, perityphlitis, cæcitis, etc. No positive rule, I think, can be advanced in these cases. There are instances in which the abscess points posteriorly and opens behind the cæcum. Of course, no surgeon would think of opening the abdominal cavity in such a case. But I am sure that in all cases of perforation of the cæcum or appendix no surgeon will wait very long before he does a laparotomy.

We may meet, for example, with a case walking typhoid. Suddenly, intense pain is felt in the right iliac region, which pain is circumscribed; there is elevation of the temperature and increase of the pulse rate. In such a case I myself would not hesitate for a moment to lay open the abdomen. I would not wait for any other symptoms to appear, as there are indications of commencing

[1] See papers by Dr. Henry H. Smith, THE JOURNAL, June 9, Dr. Thomas G. Morton, June 16, Dr. J. McF. Gaston, June 23, Drs. R. Harvey Reed snd L. S. McMurtry, July 7, and by Drs. J. Ransohoff and Penrose, July 14.

peritonitis. I think that if we neglect these cases the patients will almost surely die; and I believe, on the other hand, that if we operate on these cases, we save them.

Dr. A. W. Nelson, of New London, Connecticut: I wish to make report in short of a case that I have recently seen. I think it may be of importance in connection with the advice that has been given to operate in these cases of disease of the cæcum and its region.

I saw in March of this year a young man who had been sick about ten days. The pulse was 100 a minute; the temperature about 100°. The skin was dry, dark, sallow, the tongue somewhat furred, showing some absorption of poisonous products from the alimentary canal. He had some pain and pointing in the right iliac region with obstruction of the bowel. This pointing was not regular; it was not that of a single abscess coming to the surface, but there were three or four places pointing. The symptoms not being well marked, and there not being a great deal of pain, I aspirated with the dome trocar and removed about six ounces of stinking pus. In introducing the needle of the aspirator, after passing in a short distance, I passed through a firm leathery structure, immediately beyond which I found the pus. I have not seen the case since, but I have a report from Dr. E. Munger, of Niantic, in attendance upon him, that he was immediately better in all of his symptoms. He had an operation of the bowels soon after, and in about a week, he was sitting up. But he had another abscess which opened at the umbilicus. The discharge has, however, ceased. I do not think my method of treating the patient was in accordance with the teaching of most of our experts. The pus was, I think, somewhere within the peritoneal cavity.

I have in mind a young man, who, several years ago, on two successive occasions, had all the symptoms of peritonitis, and in whom I anticipated the development of an abscess. In his case there was a very slow pulse and a subnormal temperature. He was seen by a number of distinguished gentlemen, by Dr. Barker, of New York, among others. He was given large doses of quinine, which perhaps had something to do with the subnormal temperature. The case resulted in the discharge of a large quantity of gray *grainy* and fetid fæces. The patient indulged very freely at the table, and especially in coarse and uncooked food.

These cases lead me to hesitate about the adoption of the operation in all cases of this sort. There is certainly great danger in many of them, that you open not only the abdominal cavity, but also the intestine. If, for example, you have a certain amount of peritonitis and adhesions to the abdominal wall or other organs in the neighborhood, you may very easily cut through into the intestine and have a fistulous opening formed, although I do not now recall any such cases. I think therefore that the operation is to be considered very carefully in every individual instance, before we decide upon performing it. Of course, laparotomy should be resorted to without hesitation, in certain emergencies, and in typhoid fever with perforation, as spoken of a moment ago by Dr. Gross. I do not think, however, that there is nearly so much danger in the introduction of the needle of the aspirator, in the proper cases, as there is in making an incision with the knife.

Dr. S. H. Weeks, of Portland, Maine, remarked that the point of greatest importance in connection with the study of laparotomy is the line of incision which is chosen, in cases in which laparotomy is indicated for perforation of the appendix or cæcum. There exists to-day a doubt as to the best point of incision. Shall it be directly in the median line, or immediately over the cæcum and appendix.

Within the last few months I have been associated with several cases. In one case my colleague made an incision in the median line, and he was obliged after making it to extend the incision at right angles to this in order to reach the point of difficulty. It was evident to our minds at the time that the incision directly over the cæcum would have been better. A few months after that I had occasion to make the operation upon a physician in our town. I made the incision directly over the cæcum and reached the point of difficulty at once.

One word with reference to where the cæcum may be found. Search through the anatomies, search through the majority of the surgeries and you will find no land-mark, no definite point on the skeleton by which you may find this organ. I have made a number of examinations with a view to the determination of this point. If I understood Dr. Morton aright yesterday afternoon, he stated as a result of his own dissections, that the incision should begin at a point about an inch above the middle of Poupart's ligament, and to the outer side of the right linea semilunaris, to be continued from this point upward or outward and upward. He stated that the cæcum lay directly under a point two inches distant from the right anterior superior spinous process on a horizontal line drawn from this process toward the median line of the abdomen. Now, my experience has been from these cases, less than half a dozen in number, that the cæcum is found about one inch above and an inch or a little more internal to the anterior superior spinous process. This is an important fixed point of the skeleton which we can always place our finger upon, and use as a guide to the seat of the disease.

Dr. H. H. Mudd, of St. Louis: It seems to me, Mr. Chairman, that this field offers a good chance for the exercise of surgical judgment. The

difficulty here is, as in almost all cases of abdominal operations for obstruction, in the diagnosis and the determination of the conditions which demand or do not demand operative procedures. Ileo-cæcal obstruction offers a good chance for a discriminating diagnosis. We have three sources for the appearance of a tumor in this region: we have first the accumulation of fæces, second an accumulation of gas, and third an infiltration of the cellular tissue about the walls of the intestine, a cellulitis. Now, if we have symptoms of irritation, with moderate obstruction preceding the final development of a tumor, we have something to guide us to the belief that we have an inflammation of the intestinal wall; and if, supervening upon this, we have a sudden acute attack of pain, which is persistent, which is evidenced by increased distention; which is evidenced by all the usual symptoms of perforation, then we have conditions which favor operative procedure at once. But if we have developing with these a slowly forming tumor probably resulting from the infiltration of the cellular tissue of the region, then we have a condition in which we may defer operative procedures for some time. I have seen a number of these cases recover simply after watching; and I have seen others get well after a laparotomy. I may mention that not long ago I saw a case of abscess in the lumbar region; the abscess pointed, was opened, a lumbricoid worm was discharged, and the woman recovered without further operative interference.

I saw a case only last week in which I made a laparotomy under rather unusual circumstances. The patient had had recurring attacks of pain. She had been in the hospital eleven weeks with symptoms of obstruction, a tumor also presenting a little to the right but near the median line. The tumor was overlaid by folds of the intestine, as we were able to determine by hearing the fluid and gas gurgling upon making pressure with the hand. By examination of the rectum I was able to feel the tumor, and could even get fluctuation by rectal palpation. From this I came to the conclusion that he had an intraperitoneal tumor. I made a laparotomy, found a large abscess in the peritoneal cavity, opened it, drained it, and at the post-mortem three days after found this condition of affairs: The colon and a coil of some portion of the small intestine, I am not sure just what portion it was, were in process of uniting, the colon lying in front of the tumor. I found at least 13 inches of the small intestine surrounding this abscess, being held down in the pelvic cavity with such firmness as to cause the lumen to be obliterated by the distension of the abscess. At no point in this region do I think this tumor could have been reached without perforating the intestine itself. It would have been dangerous to have attempted to reach it without laparotomy.

The question which has troubled me most in all these cases, and which I think is one of practical importance for us to consider, is this: Have we in perityphlitis, typhlitis, appendicitis, etc., a reasonably fair chance to interfere after a suppurative peritonitis has developed?

About the incision—I am not so sure that the inguinal region is the best line. In many instances it will answer, but not as an unvarying rule, because there is no part of the intestine which is so frequently displaced as in this portion.

DR. J. MCFADDEN GASTON, of Atlanta: I am particularly anxious to question Dr. McMurtry with reference to cases in which the cæcum is seriously involved, in the trouble; which is quite different from a case of perforation and extravasation into the peritoneal cavity. I did not understand from the report of his case that he had taken any special precautions against extravasation of fæcal matter into the peritoneal cavity during his operation. If there had been extravasation, it would certainly have been proper to wash out the whole abdominal cavity thoroughly in order to get rid of this matter.

DR. L. S. MCMURTRY, of Danville, Ky.: In regard to the question propounded by Dr. Gaston, I wish to say that the case I have reported was a typical case of septic peritonitis, with perforation of the gut as the direct cause. The peritoneal inflammation was recent, severe and spreading. I attribute the success of the operation in great part to the fact that it was done promptly, while the peritonitis was limited in area and before the entire membrane had become infected throughout.

I think some confusion has crept into the discussion of these important papers from failing to observe the proper distinction between intraperitoneal and extraperitoneal inflammations. When the appendix is attached by the inflammatory process to the abdominal wall, and the perforation is shut off from the peritoneum thereby, an abscess forms in the cellular tissue, and follows the connective tissue planes toward the surface. Opening such an abscess is altogether a distinct operation from abdominal section for perforative peritonitis.

In conclusion I would reiterate the statement made in my paper, and now suggested by the discussion, concerning the use of the aspirator in these cases. As an exploring instrument in these cases it is unreliable, while the danger of infecting the peritoneum by the needle is a real danger. An exploratory incision is more satisfactory and less dangerous.

DR. JOSEPH PRICE, of Philadelphia: I have but a few words to say in regard to this question. I simply accept Dr. McMurtry's paper as legal tender. What he has done and what Dr. Gross has said illustrates very clearly what Mr. Greig Smith has said: "There is passing over America to-day a wave of deep surgical wisdom and originality." Superficial surgery is all very well, but

it is not sufficient in these cases. We must seek the origin of the trouble; we must find the perforation. This Dr. McMurtry did, he set himself to find the cause of the trouble, and having found it, removed it. A member of our profession was suffering and he saved him. I do not agree with what has been said in regard to the use of the aspirator in these cases: with it you can see nothing; you work in the dark. This has been well expressed by Mr. Tait when he said: With a trochar you can feel or see nothing; you make a small opening, drain away the foreign matter, but you cannot introduce a drainage tube.

Surgeons that have not had some special training have great fear about resorting to abdominal section We have now no fears whatever at opening the peritoneal cavity, as it can be done almost with impunity. At present, too, there is nothing so simple as dealing with pus. I have no fear of deluging the peritoneal cavity with pus. I have recently had several cases in which this occurred; and when I left home all were doing well.

As for the diagnosis of alarming conditions in the abdomen, I would this day rather depend upon a diagnosis made by a so-called general practitioner than I would upon that of a so-called general surgeon.

The only safe rule in regard to troubles in this region is to open the abdomen, remove the confined matter and do it thoroughly; do not leave an oyster-shell in the abdominal cavity.

Dr. E. M. Moore, of Rochester: I have listened to the papers with intense interest; and they are certainly as good papers as could be brought before any Association. But it seems to me that I have failed to hear one or two things that come within the experience of every general practitioner. Now is it not the experience of all of you that you have cases of what was called perityphlitis, occurring in the right side, affecting the cæcum, that come on day after day, and finally get well without surgical interference, and the rule is that they get well? I have seen it over and over again; and my experience has been that if it was sufficiently local, it was sure to get well.

And when we speak of laparotomy, did I understand Dr. Price to say that the operation of cutting into the peritoneum is absolutely free from danger? I must say that I am utterly astounded!

Now how are we to make out the cases upon which we are to operate? We have just heard that there is tenderness and that a tumor is present. Now I wish to make this statement: That if there is a tender spot anywhere in the abdomen and there comes a tumor in the region, it is by no means sufficient to warrant us in opening the peritoneal cavity. We must be on our guard. It so happens that in the right iliac region you will occasionally have these phantom tumors; a hard mass, that on palpation feels like a board. The patient complains of tenderness. You make percussion and you get resonance. You have gas there. Sometimes you have in connection with this certain symptoms which will help you out in your diagnosis. When you have suddenly supervening upon a moderate degree of inflammation, a violent, sudden attack of peritonitis, coming as a blow, as it were, you then have evidence of perforation into the peritoneal cavity, with this tendency toward sepsis. It is not always easy to determine this point. I have experienced this difficulty. I have opened these cases in which pus was discharged, but I have never had to protect the patient, as there was always a cavity formed sufficiently separated from surrounding tissues. I have opened them from behind. In some of these cases a foreign body will be discharged through the opening, as where a cherry-seed has gotten into the appendix. I remember one case where, when the drainage tube was taken out, there was at the end of it the seed of an orange.

Laparotomy, gentlemen, I cannot believe, is so innocent as is claimed by some.

Dr. Donald Maclean, of Detroit, Chairman: I think it would be a mistake if the dictum should be allowed to go out from this Section, that the abdominal cavity can be opened with perfect safety.

Dr. P. S. Conner, of Cincinnati: I am sure that I voice the sentiment of the Section when I express high appreciation of the papers read yesterday—papers which presented to us the results of experience and experiment, and gave us positive rules in the treatment of cases of most difficult character; and last of all we had the most beautiful demonstration that I think has ever been given to the profession of this country. Nothing could exceed the labor and patience with which were worked out the experiments presented to us yesterday by Dr. Senn. He literally, absolutely, in every sense of the word, threw light upon an exceedingly dark subject. I am very certain that no class of cases come before us which give us more anxiety either in the detection of the difficulty or in the treatment of it, than intestinal obstruction. If we were to believe all we read and a good deal we hear, we would suppose it an easy matter to determine the character and location of intestinal obstruction. The diagnosis has been very positively laid down in the books, but I think that I can appeal to the surgeons in this room whether they do not agree with me, that however clear it may be in print, it is a very different matter with a patient in bed. It is sometimes very easy to determine what the nature of the difficulty is; in other cases, notwithstanding the employment of the most accurate methods of investigation, it is very difficult to determine what the difficulty is, or where that

difficulty is located. In some cases too it is easy, in others difficult to determine what is to be done; but after all it is the determination of the difficulty itself which is the great trouble.

Leaving out of consideration the various separate forms of intestinal obstruction, whether due to impaction, to invagination, to bands, twists, compression by tumors, and what not, we have two kinds of cases to deal with: Flrst, rapidly developed cases, coming on in patients in good health; and second, slowly developed cases, occuring in individuals whose health is good or bad. To these we might add a third form, namely, suddenly developed cases following old chronic forms of intestinal trouble.

Letting the patient alone, the difficulty may sometimes terminate in recovery, but may, and frequently will, result in death. When recovery follows the let-alone plan of treatment, we congratulate ourselves that recovery has taken place. And who of us has not seen cases in which active interference has resulted in the relief of the patient, and again where it has proved fatal. I have twice in my own practice seen, after the release of a strangulated hernia, absolute paralysis of the bowel continue, and the patient died just as certainly and just as quickly as though no operative procedure had been undertaken.

To discuss this matter to-day is a very different thing to discussing it ten years ago. Abdominal surgery has made rapid progress; some of it, I was about to say, too rapidly made, and liable to lead in the wrong direction. Active interference is the only rule to-day. Our duty is to discover the seat of the lesion, to remove the obstruction, and to put the patient in a proper way for recovery. A world of truth was uttered yesterday by Dr. Moore, when he took exception to the remark that the abdomen might be opened with impunity. It is not a light thing to open the abdomen. Laparotomies have killed patients, as we know by experience and by statistics, which latter, I am sorry to say, are not always as reliable as they ought to be.

Where a positive diagnosis can be made the belly should be opened. The chances for death are almost certain if the patient is let alone, and the chances are certainly not worse where the abdomen is opened. If I were myself the subject of an accident of this sort, it would not be many hours before I should ask some of my friends to open me and see what the condition was; relieve it if possible, and if not, let me die in accordance with the art.

Sometimes the difficulty is of such a character that it cannot be removed. Sometimes the patient is in such desperate straits that although removal is possible, yet the operation would kill on the table. If the obstruction is due to strangulation, to the slipping of a knuckle of the bowel through an opening in the mesentery the construction can be relieved; if it is due to organic disease of the bowel, it may be possible to take away a section of the intestine, and restore the continuity by suture or to form an artificial anus, and for the time save the life of the patient.

It has sometimes been a matter of great difficulty to determine where the obstruction is located after the abdominal cavity has been opened. It is vastly different to open the abdomen for the removal of a tumor where the abdominal walls are immensely distended, and opening it for the relief of such a condition as that under consideration, where as soon as the abdominal walls are penetrated, the viscera protrude.

DR. S. H. WEEKS: In the first place I wish to express my high appreciation of the great value of the papers that have been read. And the only difficulty I feel upon my part is to know what to say in the brief space of ten minutes. The discussion I understand is limited to the treatment of intestinal obstruction in its surgical aspects. I wish to lay especial stress upon the last two words, because it is not every case that is to be treated by surgical measures; many cases are to be treated by medicinal means. It is not every case that should be subjected at once to operative measures; a certain time should be allowed to elapse. Several years ago, when laparotomy was first brought to the attention of the profession, for intestinal obstruction, I was called to see several cases in which the symptoms were obscure. The first was a man in business, 40 years of age, previously well, was suddenly seized with pain in the right hypochondriac region. (Here let me say that the pain in acute intestinal obstruction is not always at the point of obstruction.) This case was supposed to be one of the passage of biliary calculi. The symptoms were great pain, prostration, cold surface, feeble pulse, rapidly followed by nausea, vomiting, which became stercoraceous in character, diminished quantity of urine. The patient died in four days. The autopsy revealed an obstruction four inches above the cæcum, which could easily have been relieved by a surgical operation if done in time. Shortly after this case, I was called to another, a lady in fair health, who manifested almost the same symptoms with almost total suppression of the urine, and great restlessness. She died in forty-eight hours. The autopsy revealed a strangulation high up occasioned by a fold of omentum being wound around a knuckle of the intestine. Again a few months later, after having had my attention called to the importance of laparotomy in these cases, I was called in consultation to see a man previously well, who was suffering from all the symptoms of profound prostration; he was almost moribund. He and his friends were ready for almost any operation. We operated upon him; found the strangulation, relieved it, he was

immediately relieved of his pain and vomiting, but died in 48 hours from exhaustion. The operation was delayed too long.

It is an important matter in connection with these cases that the operation must not be delayed until the intestine becomes gangrenous.

Now let me call attention to the most difficult part of the matter under consideration, and that is, the diagnosis. What are the symptoms which characterize acute intestinal obstruction, and which justify the surgeon in performing laparotomy. We all know that in regard to the operation of external herniotomy for the relief of strangulated, external hernia, a great change has come over the minds of surgeons in the last 20 years. I remember when we all thought that it should be the last resort. Now we claim that the earlier a strangulated hernia is relieved the better. I will go a step further, and I will claim that no surgeon to-day ought to let a patient die of an internal strangulation any more than he would allow a patient to die of an external strangulated hernia. When he finds a patient suffering from the symptoms which characterize an internal strangulation, then I think he is justified in resorting to the operation of laparotomy. These symptoms are, sudden stoppage, great pain, great prostration, feeble pulse, anxious appearance, restlessness, nausea, vomiting, speedily becoming stercoraceous. When the surgeon feels morally certain that he is in the presence of an internal strangulation, a great responsibility rests upon him, and he makes a serious mistake if he fails to perform his duty, by making laparotomy and relieving the strangulated bowel.

CASE OF ANTEPARTUM HOUR-GLASS CONSTRICTION OF THE UTERUS.

Read before the Cambridge Society for Medical Improvement, April 23, 1888.

BY AUGUSTUS P. CLARKE, A.M., M.D.
OF CAMBRIDGE, MASS.

At 2 A.M., February 1, 1888, I was called to attend Mrs. B., aged 42 years, who was in labor at term for the fourth time. The patient had awakened at 12:30 A.M., when the membranes ruptured and the liquor amnii escaped. Her oldest child was 17 years of age, and at her birth there was nothing peculiar about the labor the duration of which was only twelve hours and ether being administered during the last hour. The next child was 11 years of age and the time occupied by the labor of her birth was ten hours. Ether was given during the last two hours. The third child was 7 years old, and ether was given during the last three hours of the labor. The time occupied by that labor was twelve hours.

At the time I was called, on February 1, the pains occurred every few minutes, though there was scarcely any dilatation of the os. In fact, during each recurring pain the os and cervix became rigid and the index finger was with great difficulty passed through the os, and it brought up against the internal os, which appeared to be in a closely constricted state. The pains continued to increase in frequency and strength and the patient within an hour after my arrival was compelled to go to bed. The pains continued to recur at intervals of every four or five minutes and were of so severe a type I deemed it necessary at 6 A.M. to administer small doses of morphia. The cervix was unusually elongated, and while the exteral os became more open and dilatable the internal os and the uterine segment immediately above presented a firm and closed barrier against any appreciable descent of the head of the child. As the uterine pains grew stronger the fœtal head could be felt to mount up against and over the os pectinis. At 9 A.M. the patient was allowed to inhale small quantities of ether, which had the effect of controlling in considerable measure the severity of the pains.

As the case dragged on frequent and guarded attempts at manual dilatation were made, to overcome the constriction at the lower segment of the uterus. The moderate use of ether was continued at intervals until 3 o'clock P.M., when the fingers could be passed on at the beginning of a pain through the constricted ring of the lower segment of the uterus, but almost invariably before the close of each pain the fingers were immediately forced outward and the upper zone of the uterus, became a closed cavity. By patience, perseverance and by gentle manipulation, and continued use of ether, the chief obstacle to the descent of the head was overcome, and a strong female child weighing eleven pounds was born at 5 P.M., the labor before the birth of the child having occupied 17 hours. During the descent of the fœtus, as it emerged from the vulva, firm but gentle pressure was maintained over the fundus of the uterus, outside, and the shoulders and body of the child were not hurried but were allowed sufficient time in the passage of the pelvic arch. As soon, however, as the child was free all pains ceased and the placenta became imprisoned in the uterine cavity—above the lower segment. Fully one hour elapsed before the placenta was brought away, and it became necessary to resume the use of ether, and to carry the fingers and hand along the funis through the internal os and lower segment of the uterus, which were at first firmly closed and only yielded entrance by gentle and persistent effort with the hand. Hæmorrhage for awhile became alarming, but was at length controlled, and the patient rallied that evening and became quite comfortable.

There was not the slightest laceration either of the perineum or of the cervix. There was no deformity of the pelvis, and the diameters of the fœtal head were normal, and the head showed no

indication of compression, nor was there any contusion of the scalp. The position of the child was favorable, the nape of the neck being behind the left acetabulum and the bregma to the right sacro-iliac synchondrosis.

The early rupture of the membranes undoubtedly occasioned to some extent the uterine constriction, and the loss of the amniotic fluid prevented the expansion of the soft parts so essential in the first stages of labor. After the close of labor quite a large mass of internal hæmorrhoids were extruded. These hæmorrhoids must have contributed to the spasm of the uterine tissue, as it is well known that any irritation occurring about the rectum or anal sphincter is likely to be transmitted to the neighboring organs, and especially to the genital tract, and there become the centre of nervous disturbance. Ramsbotham regards hour-glass contractions as an occurrence in which the whole cavity of the uterus is the upper chamber the cervix the constricted portion, and the dilated vagina the lower segment, and that a coagulum of blood is usually in the lower chamber. The same author coincides with the idea that in cases in which hour-glass constriction, or chaton, as the French say, is present the placenta or some portion of it is adherent. He does not regard the occurrence of hour-glass constriction as being so common as authors had heretofore believed. Cases of flooding, he remarks, do not depend upon the occurrence of this peculiar kind of contraction. The uterine constriction, he further observes, is of different kinds—sometimes only the central fibres contract, leaving those of the fundus and cervix relaxed, and thus preventing the natural descent of the placenta.

In the *Boston Med. and Surg. Journal*, 1883, Vol. 109, page 374, Dr. J. Stedman reports a case in which the constricting ring, instead of being circular was transversely elliptical, and the uterus itself was very movable and hard to fix. After an hour and a half he succeeded in passing the hand, when the placenta and all were expelled by the uterine contractions. The hæmorrhage that occurred was not alarming. Some observers maintain that anæsthetics predispose to hæmorrhage, while others, as Dr. Boardman, have found that ether given in the usual way exerts a favorable influence on the progress of the case.

Dr. Boardman enumerates several factors that may predispose to hæmorrhage, and which are in danger of being overlooked; the resulting hæmorrhage is ascribed to the influence of ether. In the management of the case here reported I discontinued the use of ether as soon as the child was born. After waiting an hour, and there being no return of the pains I thought it necessary to resort again to the use of ether because there was hæmorrhage that had to be controlled before the patient should become exhausted, and the insertion of the hand into the cavity of the upper uterine segment appeared quite impossible without the help of the relaxing effect of an anæsthetic. The persistence of the antepartum hour-glass constriction disclosed the fact that it would be unsafe to rely on the unaided powers of nature to overcome an obstacle the presence of which had placed the lives of the mother and child in such extreme peril. After the hand had gained admission through the uterine constriction, the placenta was reached, and without further serious difficulty brought away, and there was no indication that any part of the placental mass had been adherent. The constricting ring was elliptical, but the greatest degree of resistance it offered was at the posterior aspect of the uterus.

In considerable measure morphia and ether had the effect of preventing the occurrence of the lengthening and attenuation of the textures of the uterine cervix, a condition so liable to take place in cases in which a constricting ring of the uterus occurs. This condition of the cervix began to show itself as soon as the uterine contractions became frequent and of an energetic character, and the line of constriction just above the symphysis pubis, indicating the division between the cervical and fundal portions of the uterus, was easily recognized both by palpation and inspection of the abdomen.

As regards the treatment of cases in which such constriction of the uterus occurs, I have but little to add aside from what has already been mentioned. Suffice it to say that my experience in this, as in a few other similar cases that have come under my care, has led to the conviction that treatment in which manual or mechanical interference plays an important part should be conducted with the least possible amount of force, and it is often better to defer for awhile all mechanical measures than to incur the hazard of hastening or prolonging the dilating process. All oxytocics should be avoided. Opiates and other anodynes, as also anæsthetics, should be resorted to, but not in quantities sufficient to reduce the strength of the patient. The patient should be urged to take at short intervals all the liquid nourishment possible. Stimulants should be at hand, and should be given liberally should signs of exhaustion appear. The advantage the use of antiseptics may afford should not be overlooked.

I should have stated that I continued my visits daily until March, when the patient was able to leave her bed. Soon after she went out and took exercise in the open air. The chief obstacle to her early recovery appeared to be occasioned by the excessive loss of blood and by the presence of the hæmorrhoids already mentioned. These had become inflamed and were the cause of considerable constitutional disturbance. There was for several days an increase of temperature varying from 100° to 101.5°, and occasionally reached as

high as 102°, but as soon as the inflammation of the hæmorrhoidal mass subsided the temperature became normal. There was at no time any evidence of septicæmia, and there was no suspicious discharge nor bad odor from the vagina.

During the second week after labor the patient had almost every day a severe attack of pain in the right hip, which lasted for several hours. This pain was evidently of a neuralgic type, and was at length controlled by the administration of a pill composed of opium, digitalis and quinine. Up to this time the complexion was sallow, the lips pallid, and the whole organism was in an exhausted condition. I should further say that Mrs. B. some years previous had been subject to severe attacks of gastralgia, which only yielded to full and frequent doses of opiates. She had not however experienced such an attack for several months immediately preceding her last pregnancy. I mention these facts because they show a constitutional tendency towards the occurrence of reflex irritation which in its various manifestations comprises, as I believe, spasm or constriction incident to the uterine tissue. These may lead to the development of that peculiar condition known as antepartum and postpartum hour-glass contraction.

TWO CASES OF GUNSHOT-WOUND OF THE ABDOMEN IN WHICH THE HYDROGEN-GAS TEST WAS APPLIED.

BY J. L. HILLMANTEL, M.D.,
HOUSE SURGEON COOK COUNTY HOSPITAL, CHICAGO, ILL.

The report of the following two cases is given to show the result of the application of the latest method of diagnosis of perforating wounds of the intestines, as devised by Dr. N. Senn, of Milwaukee.

Case 1.—P. C., male, æt. 50 years, in good general health. Was shot at 2 P.M., July 4, by a man sitting about eight feet directly in front of him. The calibre of the ball could not be ascertained. A physician was summoned, who made an examination, and after introducing a probe several inches, he advised sending the patient to the Hospital. He was brought here sitting in a carriage with no dressing on the wound. Upon his entrance here, 7 P.M., the abdomen was disinfected, the wound sealed, and a hypodermic injection of ♏ vij of Magendie's solution given.

Examination.—Patient conscious, no marked pallor, hands cold. Pulse full and 96 a minute; temperature 99°. Some pain in abdomen. An opening with blackened margins was found just to the right and on a level with the umbilicus from which a small quantity of bloody fluid oozed. Abdomen not distended, but showed a changing line of dulness, corresponding to changes in position of patient, and indicated the presence of fluid in the peritoneal cavity. Liver dulness present. Patient very restless. Introduction of catheter gave about ten ounces of normal urine. Rectum filled with fæces, but contained no blood. After about 15 minutes he vomited for the first time since injury; vomited matter contained no blood. Hydrogen gas was then insufflated, the entire intestinal canal being distended until the man complained of a tense abdomen and "belched up." The gas could be accurately followed, passing through the ileo-cæcal valve with a gurgle, next filling up the umbilical region and finally distending the stomach. During this time the wound was very closely watched to notice the escape of gas. None escaped, but some bloody, serous fluid was forced out by the general distension; and as the wound was all this time covered by fluid, gas would have escaped in bubbles. A stomach tube was then introduced, which procedure caused much straining.

It was decided that the pressure exerted and the escape of gas from the mouth were sufficient proof that the intestinal canal was intact and that laparotomy was not indicated. The wound was dressed antiseptically, patient put to bed at 9 P.M. and treated as after laparotomy. He rested fairly well during night. Urine passed normally. Bowels quiet for three days when he received by mistake some potatoes and mush, after which he had one or two normal bowel movements daily. He was then put on light diet.

July 10th, the wound was dressed and found to be closed. An area of induration was present around the same of the size of a quarter of a dollar, which was somewhat tender. On the same evening patient vomited once, ejecting only the ingesta. The next morning patient felt as usual. The pulse had been between 72 and 96 a minute all this time; temperature between 99° and 100°, At noon patient vomited again and pulse rose to 110. During the afternoon he vomited twice more and pulse gradually rose to 140. Temperature 100°. At 7 P.M. patient bathed in perspiration, pulse very weak.

Dr. Fenger made an examination and found a small tumor in right hypochondrium, which was painful on pressure. No abdominal distension, percussion gave flatness especially over right side. Dr. Fenger decided to make a laparotomy immediately. An incision, 5 in., was made to right of umbilicus. The stomach was found dilated. Recent adhesions between coils of intestines omentum and mesentery. Upon breaking through these, about 8 ounces of thin, milky, purulent fluid gushed out, omitting a slightly fæcal odor. The patient was turned on his right side and the cavity flushed with warm boracic acid solution. The remainder of the peritoneal cavity was protected by shutting it off with a hot towel. A large glass drain was inserted together with some gauze,

abdominal walls closed and dressed. Ether was used as an anæsthetic and continual stimulation was necessary. The abscess cavity was washed out every two hours with warm boracic acid solution. The patient's pulse gradually failed and he expired eight hours after the operation.

Autopsy. Ten hours after death. On opening the abdominal wound the omentum and intestines were found agglutinated. The glass drain was in the bottom of a pus cavity just to the right of the stomach, between it and the turn of the duodenum. On separating the adhesions, three more pus cavities were found; closed off by adhesions formed between the omentum, pancreas, and coils of ileum and possibly following the tract of the bullet or probe. No fluid was found free in the general peritoneal cavity, but all intestines presented a congested appearance. The entire gastro-intestinal canal was searched for perforations, but none were found. The pus in the cavities contained no fæcal matter. The remaining abdominal organs were also found congested. The stomach contained dark grumous matter.

Case 2. Patient, male, æt. 23, in good health, was shot with a pistol, calibre 32, held in his own hand during the act of striking another person with the butt-end. One and one-half hour after injury he was brought to the Hospital. Complained of some pain in abdomen. Vomited shortly afterward and made several ineffectual efforts at defecation. Vomit contained some clots of blood. Dr. Fenger was summoned.

Examination. Patient conscious, very thirsty. Pulse somewhat feeble and 100. A bullet wound was present, one inch to right and on a level with umbilicus. Percussion showed presence of liver dulness and a line of dulness extending down on right side of abdomen in a curved direction, concave toward umbilicus, from liver to pubes, pointing to the presence of fluid in the abdomen. Catheterization gave 6 ounces of normal urine. Patient etherized and hydrogen gas-test applied. On introducing the rectal tube for that purpose, blood was found present in the rectum. The gas, with only slight pressure, was soon heard to enter the abdominal cavity with a gurgling sound, and in a few seconds issued in bubbles from the bullet wound. On application of a lighted candle these burned in spurts. Dr. Fenger decided to perform laparotomy, as the proof was conclusive that the intestines were perforated.

Incision, 6 inches, in linea alba, and subsequently enlarged to 10 inches. A large quantity of blood escaped with a gush. Almost the entire abdominal cavity was filled with blood. Fourteen perforations were found between the ileo-cæcal valve and the stomach; also two severe contusions of the external coats of the intestines, so that it was deemed necessary to cover the places by peritoneal sutures. Besides these, four holes were found in the mesentery in which were numerous bleeding vessels. The perforations were closed by Czerny–Lembert sutures. In two places two perforations were so close together that they were included by one line of suture. At two other points there were four perforations so close together that it was necessary to remove these portions of the gut. This was done by resection, the cut ends closed, and the continuity of the lumen restored by lateral approximation with decalcified bone plates after the method of Dr. Senn.

After all the apertures found were closed and the vessels tied, the intestines were replaced and gas again insufflated. The sutures proved to be absolutely air-tight. Some bubbles, however, escaped from the upper extremity of the incision, but Dr. Fenger thought it came from the peritoneal cavity. The abdomen was flushed, but the patient, from shock and loss of blood, was expiring. During the operation the entire mass of intestines was necessarily exposed, but was kept covered with towels and hot boracic acid solution allowed to trickle over them. Constant stimulation was necessary to keep the patient alive.

At an interval of an hour two infundations of saline solution were made, 16 ozs. being used each time. A marked beneficial effect was noticed on the pulse as well as on the general condition of the patient. Abdominal wound not closed, as the patient had expired. Duration of operation two hours and three-quarters.

Autopsy one hour after death. On removing the intestinal tract the following appeared: Two contusions in the mesentery of descending colon; large contusion with extravasation of blood in transverse colon with a wound in the mesentery; contusion of mesentery at ileo-cæcal valve; contusion of coats of ileum 8 inches above ileo-cæcal valve; extravasation of blood in mesentery 14 inches above valve; perforation 23 inches above valve in intestine (sutured); the same 32 inches above previous (sutured); same 30 inches above previous (sutured); same 18 inches above previous (sutured). Bone plate approximation 9 inches above last, where resection of 3 inches of gut had been made, the resected piece presenting four perforations. Extensive extravasation of blood immediately above this point in mesentery. Contusion of intestine 9 inches above the resection. Contusion and extravasation 29 inches above same point; perforation 47 inches above same point (sutured). The second place of lateral apposition was found 11 inches below pylorus, where 2½ inches of gut with four perforations had been resected. Finally, a perforation was found in the pyloric end of the stomach which was not sutured.

The remaining viscera were found normal. After a diligent search the bullet could not be found, although all the organs were examined, as well as the entire spinal column exposed. A minute dissection could not be made, as the section had necessarily to be stopped, but the supposition was

that the bullet had lodged in the muscles of the back.

REMARKS.—In the first case we have an excellent illustration of the proficiency of the gas-test in cases in which there is no perforation, and we may say with safety that one unnecessary laparotomy was prevented, the exit of the gas through the mouth and the absence of the same in the peritoneal cavity after complete distension, proving that the walls of the gastro-intestinal canal were not broken. This patient was not anæsthetized, and the insufflation caused no inconvenience besides the belching. The secondary laparotomy became necessary after the formation of abscesses along the tract of the bullet. The formation of these was undoubtedly the result of infection through the external wound and not through extravasation of fæces.

In the second case we see the gas escaping in bubbles with the greatest ease from the bullet wound in the parietes, removing all doubt as to the diagnosis. In this instance the gas-test might be said to have been superfluous, as the other symptoms and signs were conclusive, but the time occupied was so short, and the result so striking that the procedure can hardly be criticised. This method of diagnosis will do its good work by its negative results, and will undoubtedly prevent many unnecessary exploratory laparotomies, as it did in this first case, and it should be applied in all doubtful cases before a patient is exposed to the great danger incurred by exposure and close examination of the entire abdominal cavity for the purpose of searching for that which does not exist.

Furthermore, by the application of the test after all perforations found have been sutured, the existence of more apertures may be ascertained by the escape of gas; it also proves the competency of the intestinal sutures, and the permeability of the canal at the points where the bone plates are used.

The gas-test was applied in the presence of Drs. Price, Allport, Brown, Hodges, Hart, Hickey and Hektoen.

I. THREE SUPRA-EPIGLOTTIC BENIGN NEOPLASMS. II. A NEW PROCEDURE IN THE TREATMENT OF CYSTIC GOITRE.

Read before the Section on Laryngology of the Ninth International Medical Congress, Washington, D. C., September, 1887.

BY WILLIAM PORTER, M.D.,

PHYSICIAN TO ST. LUKE'S, AND TO THE PROTESTANT HOSPITAL; CONSULTING PHYSICIAN TO THE CITY HOSPITAL, ST. LOUIS.

I. Three supra-epiglottic benign neoplasms.

(*a*) Cyst of posterior pharyngeal wall.

This was the case of a poor woman about 27 years of age whom I saw in my clinic. Her only symptom was dysphagia, and the constant evidence of something "sticking in her throat." A direct examination revealed a cyst of the mucous membrane, about ½-inch in diameter and projecting fully ⅜-inch from the posterior pharyngeal wall, a little below the level of the tonsils. With a curved pointed bistoury the sac was freely laid open from below upwards. To the inner surface tinct. ferri hydrochlor. was applied, and the patient made a quick recovery, though until she ceased her visits there was some thickening at the site of the cyst.

A mucous cyst projecting from the back of the epiglottis, and partly covering the glottis, is recorded by Durham (Med.-Chir. Trans., xlvii), also retro-tracheal gland-cysts are described by Prof. Gruber which opened by several sinuses into the trachea.

(*b*) The second case is one which is yet under observation (August 10, 1887). A young married lady, very nervous but of good physique, was brought to me on account of an incessant cough and some difficulty in swallowing. A papillary growth was found, having its origin just below the left tonsil, but entirely distinct from it. The papilloma encroached upon and hung over the left wing of the epiglottis. It was as large as an ordinary Malaga grape, having a thick, strong pedicle. The patient declined operative interference, but I succeeded in getting her to consent to the application of a destructive agent. Chromic acid was repeatedly applied to the pedicle, and in a fortnight the nutrition of the tumor was evidently much impeded, and in another week it sloughed so nearly off that it was easily detached by forceps. The troublesome cough is nearly gone, though the patient has yet some irritation about the original site of the tumor, but this is disappearing.

Luschka (*Virchow's Archiv*, vol. l), and Sommerbrodt (*Ibid.*, vol. li), have each described cases of pharyngeal papilloma, while Mackenzie (Diseases of the Throat and Nose, vol i) refers to several cases varying in size from a pea to a small grape. This author also refers to two preparations of pedunculated tumors removed during life, now in the museum of the Royal College of Surgeons.

(*c*) Chondroma of epiglottis.

I will merely refer to this case, as I recorded a full account of it, with the bibliography to date, in the *Amer. Jour. of the Med. Sciences*, April, 1879. The patient was a stock-raiser, æt. 44. A tumor was found occupying the left margin of the epiglottis, extending about 3 lines into the substance of the normal tissue, which caused difficulty in swallowing and some pain. It was easily removed by rectangular cutting forceps, and the margin rapidly healed. The growth was a chondroma directly connected with the epiglottic cartilage.

II. A new procedure in the treatment of cystic goitre.

During the past year several cases of cystic goitre have been treated by what I believe to be a less objectionable method than the usual one of injecting the sac after evacuation by a solution of iodine or iron. I will give but one history, though the result has been good in all. A gentleman having a large cyst of the thyroid gland consulted me early last spring. The growth greatly interfered with his comfort, the trachea being pushed to the left in a marked degree. He objected to the usual plan of injection, as I told him it would probably necessitate his being confined to his room for some days. The fluid was drawn off by means of a small trocar and canula, and 6 inches of catgut steeped in tr. iodine inserted through a canula, which was then withdrawn, leaving a little of the foreign body projecting. As soon as there were symptoms of local inflammation evident the catgut was withdrawn. There was no annoyance from the treatment, and no return of the cyst.

2830 Locust Street, St. Louis.

A NEW METHOD OF TREATING ABSCESSES—EVACUATION; THOROUGH SOLUTION OF THE ADHERING PUS; DISINFECTION; DISTENSION AND COMPRESSION.

Read in the Section of Obstetrics and Diseases of Women, at the Thirty-ninth Annual Meeting of the American Medical Association, May, 1888.

BY WM. C. WILE, A.M., M.D.,

OF DANBURY, CONN.

EX-VICE-PRESIDENT OF THE AMERICAN MEDICAL ASSOCIATION; MEMBER OF THE BRITISH MEDICAL ASSOCIATION.

The proper treatment of an abscess, of any size, character or location, has long claimed the attention of the surgeon, and the literature on the subject is almost as prolix as that of infant feeding. Various methods have from time to time been devised and given out to the profession, some of which have produced valuable and permanent results, but nearly if not quite all have the objection that, in order to carry procedure out, the knife must be used to a greater or less extent. This is not only a source of dread to the patient, but involves also considerable suffering, the solution of continuity of the tissues, tardy repair, accompanied with the attendant danger of sepsis from the exposure of the pus carried to the air.

In the last ten years I have had a great number of these phlegmons to treat, and I have tried all the known methods of procedure, with varying success; but at no time have I been entirely satisfied with the results obtained. For the last year I have been using the method described below, with the most satisfactory and unvarying results, in all classes of abscesses not multiple, and not situated in any of the great cavities of the body.

As soon as I am satisfied that pus has formed, I plunge into the cavity a large-size aspirating needle, and attach to it an Allen Surgical Pump, such as I show you, and by turning the crank, remove all that is possible of the contents of the sac. I then take a 20 volume solution of perox-

ide of hydrogen. To this I add an equal volume of water and, by reversing the motion of the handle of the pump, without withdrawing the needle, I inject the cavity till it is moderately distended only. Almost immediately I find that the distension becomes greater and greater until I am satisfied that the medicament has reached every nook and corner. Then I simply turn the pressure off from the rolls of the instrument at the back of the pump, the accumulated gas which has been given off rushes out through the tube, carrying with it a considerable quantity of *débris*. I tighten the rolls again and, continuing the motion of the instrument in the same direction, I extract every particle that is left, and repeat the procedure as before. At the second washing with the peroxide I notice that I do not get nearly so much distension, and when the screw at the back is loosened for the second time but little of the gas and fluid comes away. After this comes off I am sure that I have a perfectly clean cavity. Now I take a solution of bichloride, 1 to 2,500, and again inject and withdraw two or three times. I am confident that I have a perfect aseptic cavity. At this stage the needle is removed, and I place over the whole integument overlying the abscess a smooth, even pad of iodoform gauze. I bind it firmly and neatly in place by an abundance of bichloride gauze bandage.

This dressing I invariably leave in place from four to ten days, when I always find complete closure of the cavity, perfect adhesion of its walls, and not a trace of the abscess left. The patients are simply delighted that no knife is used,

and but very little pain produced, no after-dressings required, no salves, solutions or ointments, no washings or daily dressings; a simple, almost painless procedure, with a rapid cure and no cicatrix. I do not believe there is to-day any other mode of procedure in this particular class of affections that will produce such satisfactory results for the same amount of outlay of skill and time.

In the many cases which I have operated upon I have never seen a single untoward effect, though I have treated nearly one hundred abscesses of one kind or another in this manner, nor do I believe that there is another instrument made which can do this work so easily and well as the little one before you. Its operation is perfect, its exhaustion complete, and by a single reversal of the direction of the crank it will either inject or exhaust without turning a stopcock, or making a single extra movement; in fact, I do not know of any single instrument that will do so many things so perfectly and with such little effort on the part of the operator, and costing so little money, as the Allen Surgical Pump. The one that you see I purchased from Chas. Truax & Co.

MEDICAL PROGRESS.

ESTIMATION OF GLUCOSE IN URINE.—DR. WALTER MENDELSON calls attention to a method of using Fehling's quantitative determination for glucose in urine, which effects a saving of fully one half the time usually required. Every one who has critically examined many specimens with Fehling's solution will have noticed two striking facts. The first of these is that some urines from which sugar can by various tests be positively excluded will decolorize the solution, and even give it an orange or opalescent-green tint. The second is that urines known to contain sugar fail to produce a characteristeric precipitate with Fehling's test, giving instead appearances identical with those just described, or filling the test-tube with a precipitate usually of a yellowish-green color, which never turns red and never satisfactorily settles to the bottom, and which is, moreover, so fine as to pass through most filters. The reason for these disturbing variations from the classical action of the test, is to be found in the fact that urine contains normally two classes of bodies, one of which has the power of reducing copper oxide, and the other of redissolving such oxide when from any cause it has been reduced. The less sugar the specimen contains, the more disturbing these variations become, and it may happen that as much as one-half of 1 per cent. of sugar is present without a characteristic precipitate being formed. Concentrated high-colored urines are, as a rule, more apt to show these peculiarities than dilute, pale urines. Two kinds of error are consequently likely: One that traces of sugar may be overlooked, the other that traces may be reported in urines containing none. The non-appearance of the red oxide and its replacement by a greenish-yellow precipitate, which persists in remaining in suspension for an indefinite length of time in the contents of the flask, are common sources of vexation to any one whose time is precious. To avoid these difficulties, the following procedures should be employed:

First, use a flask capable of containing about 250 c.c. after adding the usual 10 c.c. of Fehling's solution, fill half full of water, or till the solution is of a very pale blue. The reaction takes place much better and can be more closely observed than when the test solution is used in concentrated form. Secondly, the urine should be well diluted. Make a preliminary qualitative test to judge approximately of the quantity of glucose present and dilute accordingly. One in ten is a convenient strength. This, together with the thinning of the Fehling's solution, will insure proper dilution of the normal reducing and dissolving substances of the urine, and minimize their disturbing action. The temptation to use the urine but slightly diluted or of full strength when the amount of sugar is small, so as to shorten the time necessary in using the burette, is very great, but will always be regretted if yielded to.

Put the diluted Fehling's solution on to boil while preparing the dilution of urine and filling the burette. Then, when all is ready, in starting the process, allow only a small quantity—from one-half to one c.c.—to flow from the burette before boiling again, removing the flame and allowing the ebullition to cease each time before adding more. *Boil hard* each time, as this causes the particles of oxide to cohere and fall to the bottom more quickly than otherwise. Even under the most favorable circumstances—that is, when a red precipitate appears at once and falls quickly to the bottom as the reaction nears completion—a considerable time must always elapse before the supernatant fluid is sufficiently clear to allow the analyst to determine whether all the blue color has been discharged or not, especially as the fine particles of red oxide, when in suspension, give to an otherwise colorless fluid a violet shimmer. This settling may be hastened by adding a dash of cold water to the contents of the flask; but Munk[1] has devised a method which is probably the greatest improvement in the use of Fehling's solution since the test was first proposed.

This consists in adding a small quantity of a solution of calcium chloride to the mixture in the flask. (Munk recommends three to five drops of a 15 per cent. solution, but in practice I simply

[1] I. Munk, Virchow's "Archiv," vol. cv (1886), p. 63. I have made an abstract of this article, which may be found in the "American Journal of the Medical Sciences" for October, 1886, p. 543.

make a pretty strong solution, and use as much as seems needed.) A voluminous, white, curdy, precipitate is formed, consisting in part of calcium hydroxide and in part of calcium tartrate, the latter being less soluble in hot than in cold solutions. This precipitate, from its curdy, gelatinous nature, carries down with it the impalpably fine powder of the copper oxide, and quickly leaves a clear supernatant fluid in which the most delicate shade of blue is discernible, if present. In practice I have found the following the best mode of procedure:

If the oxide comes down red in the beginning, I continue adding from the burette until the rapid falling of the precipitate to the bottom of the flask warns that the reaction is nearly complete. I then add about ten drops—or enough to give a pretty large quantity of precipitate—of the calcium-chloride solution. When the precipitate of copper is yellowish-green and shows no sign of turning red, I add the calcium-chloride solution as soon as I have satisfied myself of the latter fact. Great care must be used to boil slowly at first, allowing the flame of the burner to play gently, with frequent removals, about the bottom of the flask until the whole mass gradually boils.

If this is not done, owing to the character of the precipitate, explosive boiling may occur, and the whole contents of the flask be suddenly landed on the ceiling—a monument to precipitancy for all time! When boiling is once under way there is no more danger of such an accident occuring, and ebullition should be maintained for some minutes before the precipitate is allowed to settle. Should it be found, after the calcium tartrate with the copper oxide have settled to the bottom, that considerable copper still remains in solution to be precipitated, it will generally be necessary to add from time to time, as the urine is run out of the burette, a few drops more of the calcium-chloride solution, as the freshly precipitated calcium tartrate has greater clarifying powers than that which has already been used. Should the amount of precipitate become finally very large, more water should be added to the flask.

By the use of this method a sugar determination may be made in twenty minutes, and several can be done together in even less time each; whereas, under the common method, half an hour would be very short and very exceptional, and an hour or more—depending on the nature of the specimen—nothing unusual.—*New York Medical Journal*, July 7, 1888.

ELECTRICITY IN UTERINE DISPLACEMENTS.—In an article on this subject DR. A. LAPTHORN SMITH, of Montreal, writes of the details of this method as follows:

First of all a precaution is very necessary, but not more so in this than, in the light of present experience, is the case in any other manipulation about the genital canal, viz., to irrigate the vagina with a 1:40 carbolic or a 1:5,000 sublimate solution. If the latter be used as the disinfectant, I would recommend the operator to imitate a little knack, which Apostoli has, of depressing the perineum with the little finger afterwards, in order to empty the seminal lake or cavity of the vagina, which I have frequently known to hold several ounces of fluid. The observance of this precaution has saved me from any fear of mercurial poisoning, although I have made many hundred irrigations.

The apparatus required is as follows: a faradic coil made on purpose for this work. The wire must be very short and very thick, because what we want is a current of quantity. A long fine wire holds back the electric current, owing to friction or resistance, and consequently furnishes a current of tension, which is the current par excellence for relieving pain. A faradic coil, therefore, which is neither long nor short, neither coarse nor fine, is quite unsuitable for treating displacements. The instrument used by Apostoli, manufactured by Gaiffe, contains two such bobbins which can be used at will with the same primary coil, which latter, he never uses. These boxes also contain two small bisulphate of mercury cells, which are strong enough for an odd case that you may see at her house, but which is altogether too weak for office or hospital work where it is better to use two or three Leclanché cells to be reserved for this purpose only. With regard to the number of interruptions, the less rapidly they succeed each other the better, for we should aim at giving the muscular fibres time to relax after each contraction, rather than to throw them into a condition of permanent spasm. Every time a muscle contracts it develops, but if the contraction continues too long without a rest, it becomes exhausted.

Besides the apparatus for generating the proper current, the only other instrument necessary is the electrode or exciter. Tripier was in the habit of employing a monopolar exciter, the circuit being closed on the belly, above the pubis, by two large tampons of gas-retort carbon, covered with wet chamois skin. Apostoli uses a bipolar exciter, either large for the vagina or thin for the uterus, in which the two poles terminate about an inch from each other at the end of the instrument, and for which he claims the following advantages:

1. Doing away with the cutaneous pole.
2. Concentrating on the uterus (and its ligaments) the whole of the electrical action.
3. The operation is easier, and does not require the assistance of the patient nor any one else to hold the tampons.
4. The operation is less painful on account of the current not passing through the skin.
5. The operation is stronger and more effective, on account of the possible increase of the uterine

contractility, the facility being given of employing, although with less pain, a much stronger current, with the result that it is more curative.

I have just said that the bipolar exciter may be either vaginal or intra-uterine, and it may very properly be asked in what cases would you use the one, and in what cases the other.

The answer naturally follows from what I have already said as to the nature of the uterine displacements. In flexions, or as I would prefer to call them, deformities, the uterus itself is relaxed, and requires to be put through a course of gymnastics in order to make it hold itself up on itself, and the intra-uterine exciter should be employed. In versions and prolapsus, the muscles of the perineum, vagina, and the so-called ligaments are at fault, and they can be made to contract merely by the application of the current to the vagina. Patients generally describe their sensation as a trembling in their inside, at first immediately around the exciter, but afterwards gradually spreading until the whole pelvis is included. This is effected by the tissues acting as induction coils, one layer being affected after the other. This reminds me of another precaution which it is well to bear in mind. If by any chance the current should suddenly cease to flow, or the instrument should drop out, the patient will experience a severe shock, due to the discharge of the induced electricity stored up in these secondary batteries. It is therefore, important to lower the strength of the current gradually, before terminating a séance, and to take good care not to let the electrode inadvertently drop out. If you do, you will not be likely to have a chance of doing it again on that particular patient.

The question may be very properly asked, whether the faradic treatment of displacements will ever fail us; and if so, in what cases. It is insufficient in those cases in which the displacement is due to abnormal weight of the uterus, when the weight consists of tissues other than muscle. For instance, in cases of areolar hyperplasia, in which there is an abnormal amount of fibrous tissue, the faradic current would be of no use, because there is no muscular fibre for it to exert its power upon. In these cases, what is wanted is a form of electricity which acts especially upon the trophic nerves; in other words, the continuous current. But in subinvolution, in which the overweight is entirely due to the presence of muscular tissue which should have undergone fatty degeneration and been absorbed, the interrupted current finds its most useful application. For here all that is required is a greater amount of contraction, in order to diminish the blood supply.

Another question which is often asked is: Is it important to employ one pole rather than another in the faradic current? The answer is no; for the direction of the current changes many hundred times a minute, so that no matter how you connect the current, the effect will be the same. Moreover the two poles terminate in the same electrode.

Should we use a galvanometer while applying the faradic current? No. For the quantity of electricity, which alone the galvanometer is capable of revealing, would hardly be sufficient to deflect the needle.

How then can we judge of the amount of current to employ? Simply by consulting the feelings of the patient. Never give her more than she can bear.—*American Journal of Obstetrics*, June, 1888.

TUMOR OF THE SPINAL CORD; REMOVAL; RECOVERY.—We are slow in getting used to the idea that under proper conditions of precaution many tumors of the brain may be removed *en masse* with the gain of life, and not the losing of it; and now, further, we must grant that the spinal cord, that most inaccessible and inviolable of organs, may be laid bare of part of its bony covering—man may become for the time and in part an invertebrate—in order that it may be set right, not by the gentlest of manipulations, but by the surgeon's knife. At the concluding meeting of the Royal Medical and Chirurgical Society, which was held on Tuesday, June 12th, the most important paper of this session, from Dr. Gowers and Mr. Victor Horsley, was presented, relating in such detail as the novelty and complexity of the facts demanded a unique case of the successful removal of a tumor of the spinal dura mater from within the bony canal, and the complete recovery of the patient. At a previous meeting of the Society the patient, a private gentleman, an officer in the Merchant Service, had most willingly attended to show to all who cared to see them the proofs of what had been done to him, and to express his deep gratitude for the change it had made in his life. Since 1884 he had had a nearly constant pain under his shoulder blade, with long fits of agony that maddened him, as some of his friends said in all seriousness, and with no hyperbole or metaphor. He might well have been glad of some last straw to break his back, and bring him to an end; but science could break his back to more profit. After due consideration and explanation, Mr. Victor Horsley laid bare the spinal column from the third to the seventh dorsal vertebra, and cut off the fourth, fifth and sixth spinal processes with strong bone-forceps. He made his way through the laminæ on both sides, and the still more obstinate ligaments subflava, slit the dura mater up the middle line, and laid bare the spinal cord. When the opening was first made the injury had been suspected, but the tissues were healthy. That the attempt should be abandoned was counselled from some quarters, but Mr. Horsley preferred to complete his task, removed

the posterior part of another superior vertebra, and there found this tumor of the dura mater compressing the cord. It could easily be shelled out of its deep bed, the wound was carefully closed and drained, and healed by first intention. Slowly the great power of nervous recovery showed itself, and the pain and paralysis disappeared. This is not easy surgery; and the many details, hints, and conclusions that find a place in Mr. Horsley's paper will need careful consideration when we receive it at length in print. It was more than a summer gathering of the Royal Medical and Chirurgical Society could do to discuss it; it must be left to take its permanent place among the forward steps of the progress of the healing art.—*British Medical Journal*, June 16, 1888.

LAXATIVES FOR FATTY HEART.—KISCH recommends the following;

℞ Pulv. rad. rhei.,
Ext. aloes,
Ext. jalap, āā gram. 2
Pil. mass, q. s.
℔
Make 30 pills.
S. One pill in the evening.

For anæmic patients:

℞ Ferri sulph. puv. - - grams 3
Ext. aloes - - - - - " 2
Pil. mass. - - - q. s.
℔
Make 30 pills.
S. One, morning and night.

If compensation is becoming exhausted digitalis may be added.

℞ Pulv. rad rhei.,
Ext. aloes aq.,
Pulv. fol. digital. āā grams 2
Pil. mass. q. s.
℔
Make 30 pills.
S. One every 3 hours.

—*Internat. klin. Rundschau*, No. 10, 1888.

TREATMENT OF LUXATED CATARACT.—At the recent meeting of the Société Française d'Ophthalmologie GALEZOWSKI read an article on this subject, and drew the following conclusions:

1. Subluxated and luxated cataracts constitute a variety of complicated cataracts, and should be operated upon with the least possible delay, in order to prevent inflammatory accidents.

2. The best operative method for the extraction of luxated cataracts is the method with the simple flap, without iridectomy.

3. The incision should be made above, preferably, of medium size, and away from the corneal border.

4. The curette with which the luxated crystalline is removed should be comparatively large and concave in order to better seize a large cataract.—*Revue Générale d'Ophthalmologie*, No. 5, 1888.

HYPERPLASTIC CATARRH OF THE VOCAL CORDS.—At the meeting of the Berlin Medical Society on June 13, HEIMANN presented a woman suffering from this affection, especially at the anterior angle formed by the vocal cords. It was similar to the affection described by Stoerck under the name of blenorrhagia. The patient was completely aphonic. The nasal and palatine mucous membrane was atrophied. The anatomical alterations of this singular affection, said Heimann, are of the order of the laryngeal pachydermia described by Virchow.—*Bulletin Médical*, June 20, 1888.

AMYLEN HYDRATE AS A HYPNOTIC.—DR. GURTLER, of Königsberg (*Berliner klin. Wochenschrift*, No. 6, 1888), gives the results of its use in cases of alcoholism, epilepsy, morphinism, cerebral meningitis, spasmodic cough, cystitis, and other maladies. In these and other diseases he has found it act promptly and efficiently as an hypnotic.

The formulæ advised by Gürtler are as follows:

Amylen hydrat. - - - - - 7 parts.
Aquæ destil. - - - - - - 40 "
Syrp. rubi - - - - - - 30 "

or,

Amylen hydrat. - - - - - 7 parts.
Aquæ menth. pip. - - - - - 40 "
Syrp. rubi - - - - - - 30 "
Ol. menth. pip. - - - - - gtt. 1

Dose.—45 to 90 grains of amylen hydrate for an adult.

—*American Jour. Med. Sciences, May, 1888.*

ARTIFICIAL SUPPRESSION OF THE MENSES IN CHLOROSIS.—LÖWENTHAL records 23 cases in which artificial suppression of menstruation was of therapeutic advantage. The method consists in the injection of warm water (at not less than 49° C.), the patient remaining in bed. In a very few cases ice-water may be preferable. In 18 of Löwenthal's cases the patients had chlorosis; the other 5 included 2 cases of grave hysteria, and 3 of convalescence from exhausting diseases. In the last convalescence was cut short. The results of the treatment were satisfactory.—*Gazette de Gynécologie*, June 1, 1888.

ACTION OF VAPORS OF HYDROFLUORIC ACID ON TUBERCLE BACILLI.—GRANCHER and CHAUTARD conclude, from a series of experiments that (1) the action of vapors of hydrofluoric acid on the evolution of experimental tuberculosis is *nil*, (2) that the direct prolonged action of hydrofluoric acid on the tubercle bacillus diminishes its action, but does not kill it.

APOMORPHINE IN ACONITE AND BELLADONNA POISONING—DR. BRADLEY reports, in the *British Med. Journal*, a case of poisoning by aconite and belladonna, in which 0.1 gr. of apomorphine was injected hypodermatically about ten minutes after the accident. Ether was injected to stimulate the heart. The patient recovered.

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SATURDAY, JULY 21, 1888.

THE ACTION OF DIGITALIS.

"The indications for digitalis in cardiac affections are not yet precisely laid down," said Fonssagrives in 1884, "and we must proceed by groping, advancing step by step, observing the effects produced." Another French clinician has said that digitalis is like an ink-bottle, though how, he did not say. "With it we may calm or provoke palpitations, we may cure or promote asystolism, we may produce cerebral hæmorrhages or embolism, we may provoke anginous attacks or increase their intensity; here it is a perfect diuretic, there it has no action on the urinary excretion," says HUCHARD, in a most valuable addition to the therapeutic literature of internal medicine, "*Quand et Comment doit-on prescrire la Digitale.*"

But before answering the questions, When and how shall we prescribe digitalis? it may be well to review briefly the physiological and therapeutic action of digitalis. That there is by no means a unanimity of opinion may be seen by the four theories as to the action of this drug: 1. Digitalis acts directly on the myocardium (Vulpian), by exciting it (Sanders), or by paralyzing it (Stannius, Orfila, Dybkowski, Pelikan). 2. It acts on the vessels and vaso-motor nerves (Hutchinson, Löderich, Legroux)—a theory that makes the primary action of the drug peripheral rather than central. 3. It acts on the nervous system. Traube is the chief supporter of this view, his third and last opinion being that the slowing of the heart is not due solely to the action of digitalis on the trunk of the vagus, since after section of this nerve it does not retard the pulse. It must be admitted, then, that it acts on its peripheral end. 4. Digitalis acts at the same time on the heart and on the vessels.

The diverse opinions regarding the action of digitalis, says Huchard, are due to the fact that digitalis acts differently according to the species of animal experimented upon. Given to cold-blooded animals it arrests the heart in systole; while it arrests the heart in diastole in warm-blooded animals. Its maximum action is seen in frog, rabbit, and guinea-pig, and its minimum action in the snail and toad. We cannot draw conclusions from such contradictory results from the sound or traumatised animal to the sick human patient; nor can we conclude from the well man to the sick man, from a patient in a febrile condition to one without fever, or from a cardiopathy in its first stage to one that has become asystolic. All diseases, and particularly febrile diseases, change the conditions of absorption and elimination of medicines, and the doses prescribed, says Huchard, should be regulated and modified accordingly. If we give digitalis to a man with no cardiac affection, or to a patient with heart disease completely compensated, it is very difficult, even with large doses, to slow the heart's action or to cause diuresis. If we give it to an asystolic patient we cause rapidly and surely, with comparatively small doses, a considerable slowing of the pulse and increased excretion of urine. If we wish to act on the heart of a febrile patient and abate the temperature, we must use large doses of digitalis. In typhoid patients, for example, the necessity of increasing the dose in many cases is a proof of the slowness of absorption and elimination of drugs under certain circumstances. And what better proof can we have, asks the learned clinician, of the uselessness and danger of certain formulæ that indicate the invariable doses of drugs, without mentioning the variable conditions of absorption and elimination?

It has been said that digitalis acts differently in the first and third stages of a cardiopathy. Given a case of aortic disease in which the lesion is well compensated, or in which there is exaggerated compensation: here it is wrong to give digitalis, for even if the heart is slowed very

slightly, the diuresis produced is insignificant, and the heart may be excited instead of being calmed. But take this same patient in the hyposystolic stage, and the drug that has produced no therapeutic results three or four months previously, now causes abundant increase of urine, and slowing, reinforcement and regulation of the heart-beats. In the first stage digitalis has possibly excited the heart; in the second it calms it. So the dictum of Bouillaud, that digitalis is the opium of the heart, or of Beau, that it is the quinine of the heart, is not absolutely true. The most that we can say is that it is a regulator of the whole circulatory system. The difference in the action of digitalis depends, on the other hand, a good deal on the dose employed. Even in the last century Withering said that it acts better in cases in which the pulse was feeble and intermittent than in those in which it was hard and regular; but he did not discern that while it is a sedative in large doses, it acts as a stimulant in small doses. We have thus a further proof that clinical physiology is superior to experimental physiology. It is clinical physiology that shows us that digitalis causes slowing, regulation, and reënforcement of the ventricular systole, and increased arterial contractility and tension. In pathological cases it becomes diuretic in an indirect way, and without exercising a primary action on the kidney. That it is absorbed and eliminated slowly its cumulative action shows.

The first phenomenon produced by digitalis is slowing of the cardiac beats, rarely preceded by acceleration. The heart may be excited by any motion, by emotion, by cough, but this is succeeded by slowing of the pulse when the patient becomes quiet. The digitalic pulse, then, is, says Huchard, mobile, variable, and unstable; whence the therapeutic rule, little known and less observed, *keep the patient quiet and at rest if you would get the maximum action of digitalis.* As already said, when digitalis is given to a well person or to one that has no cardiopathy, the slowing of the pulse is scarcely appreciable; but when given to an asystolic cardiopath the slowing is much greater, and in some cases the pulse may fall from 160 to 50 beats a minute. It should be remembered, however, that digitalis may make the pulse *appear* slow, while the heart is really not so slow. In estimating the action of the drug, therefore, the heart should be auscultated while the pulse is palpated. Sometimes there are twice as many cardiac pulsations as beats of the radial pulse, showing the alternation of a strong and a weak systole, as may be seen by sphygmographic tracings.

Not only is the pulse slowed, but it is also regulated. Nevertheless, Lorain has shown that digitalis produces a sort of regular or rhythmical irregularity, by which two rapid pulsations are separated from the two following by a long pause. This is the bigeminal pulse of digitalis, which should not be attributed to the patient's malady. The pulse becomes stronger, fuller, more ample, more resistant under the finger, indicating increased arterial tension, shown on the sphygmographic tracing by a short and oblique line of ascension, with a rounded summit, and a long line of descent. The cardiac impulse is more energetic, and the præcordial impulse more limited and stronger—the hammer stroke. The first sound is more vibrating, sometimes followed by a transitory systolic souffle, which has been attributed to the irregular contraction of the papillary muscles. This digitalic souffle, however, should not be confounded with that of mitral insufficiency, which has disappeared under the influence of the progressive enfeeblement of the myocardium, and reappeared under the tonic action of the drug. At the same time and for the same reason the asystolic murmur of Parrot disappears from the tricuspid orifice, this murmur being due to functional insufficiency following paretic dilatation of the right ventricle. That the drug is having its effect is shown by repeated and successive measurements of the heart; the heart retreats, diminishes in volume, especially transversely in asystolics, which implies diminution of the auriculo-ventricular orifice.

Diuresis is the second phenomenon following slowing of the pulse; and digitalic diuresis has special characteristics: it appears on the second or third day after the beginning of the administration of the drug, and usually appears suddenly; it is like a urinary flood, which is maintained for eight or twelve days above the physiological quantity. Digitalic diuresis is distinguished from the diuresis caused by caffeine and strophanthus in that the latter drugs cause a progressive and continuous increase of urine. We all know that when diuresis appears there is diminution or disappearance of œdema, dropsy and congestion, and

the body loses in weight. According to Lorain the daily elimination of urea does not vary, whatever may be the quantity of urine excreted under the action of digitalis; Huchard says that it is increased, while Mégevand says that the urea is diminished.

It is scarcely necessary to remind the reader of the cumulative action of digitalis, or of the therapeutic rule: Digitalis should be prescribed in decreasing doses, and it should not be administered in large doses for more than four or five days. But with the cumulative action of the drug must be considered the accumulation of doses. As Gubler has said, digitalis does not penetrate immediately into the organs that it modifies; it may be held in reserve in the organism; its cumulative action is the storing of the drug in an organ (the stomach or intestine), the accumulation of dose is the storing of it in the organism. From this must be deduced the practical conclusion that drugs that have cumulative properties should be given, so far as possible, in liquid form.

To the ignoring of the facts mentioned must be attributed the greater number of failures with digitalis, and the majority of cases of digitalism, the dangers of which have been exaggerated. It is important to reflect that these disagreeable symptoms do not appear while œdema persists. While the drug cures asystolism, it may cause a kind of toxic asystolism. Among the disagreeable effects of digitalis may be mentioned a pseudo-angina, which must be distinguished from præcordial anxiety, and from true anginous attacks in subjects of angina provoked by abuse of digitalis. The most important of these effects, however, are those produced on the digestive tract. The precocious vomiting caused by digitalis is due to the topical action of the drug on the gastric mucous membrane; the later vomiting comes on in about twenty-four or forty-eight hours after administration of digitalis in large doses, and is caused by toxic action. The accidents from digitalis may dismay the practitioner, and deprive him of one of the most important therapeutic resources. Next week we will discuss the important question, How should digitalis be prescribed?

THE SALE OF FLY-PAPERS containing poisons is forbidden in Berlin, to others than apothecaries, by order of June 7.

WEAR AND TEAR OF THE PROFESSION.

DR. JOHN H. RAUCH has recently published some statistics on this subject, collected during the last ten years. The figures go to show that the wear and tear on the medical profession is underestimated, and that the active practice of medicine is less conducive to longevity than is popularly supposed.

The statistics are based on observation in Illinois, in which, during the last ten years, there has been an average of 6,000 living per annum, and the aggregate deaths have been about 800—an annual mortality of 13.3 per 1,000. The *personnel* of the profession in Illinois is thought to be fairly representative of the profession generally, since it is composed of about one-sixth of physicians of a large city, and the remainder of physicians of smaller cities and towns.

Of the 800 deaths the age at death and the cause of death have been obtained in 686 cases. Three tables have been prepared, the first showing the average number of physicians in Illinois living annually at grouped ages, and of all males in Illinois at the same ages; average number of deaths annually of each class, 1878 to 1887, inclusive. The second table shows the yearly death-rates per 1,000 of physicians in Illinois, of all males in Illinois, and of both sexes in the United States, at grouped ages. From an examination of the tables it is seen that, while the death-rate of physicians in Illinois for the first few years after entering the profession is lower than that of all males in Illinois, and greatly less than that of the whole population of the country; it increases beyond that of the former class during the decade from 40 to 50, and is greater than that of the latter class in the next decade. The inference to be drawn from this is that on entering the profession physicians form a selected class, since they have an advantage of almost 3 per cent. as compared with all males at the same ages—from 24 to 40—and of more than 50 per cent. as compared with the total population, both sexes, at the same ages. But as the wear and tear of practice begins to tell this advantage is soon lost, and during the four decades from 30 to 70 the mortality of physicians is 8 per cent. greater than that of all males, and during the period from 40 to 70 it is 11 per cent. greater than that of both sexes.

The third table shows the principal causes of deaths of physicians in Illinois during the ten

years ending December 31, 1887. The following are the percentages: Phthisis 15.3, diseases of the lungs and respiratory apparatus 14.4, diseases of the brain and nervous system 13.1, zymotic diseases 10, misadventure and violence 9.4, diseases of the heart and blood-vessels 8.4, diseases of the stomach and digestive tract 6, Bright's disease 3.8, diseases of the liver and appendages 3.2, and enteric fever 3 per cent. These figures show the result of exposure, irregular hours, broken rest and mental anxiety. Phthisis, diseases of the respiratory apparatus (91 deaths from pneumonia), and Bright's disease caused 268 deaths—more than 25 per cent. of the total. It is seen that more than 13 per cent. died of diseases of the brain and nervous system (embracing 43 cases of the various forms of paralysis) as a result of mental strain and anxiety, insufficient, irregular, and interrupted sleep and similar causes. The group of zymotic diseases includes 5 deaths from diphtheria, 1 each from small-pox and yellow fever, and 8 from septic infection, contracted while in attendance upon patients.

There is a marked decrease during late years of the deaths from alcoholism, overdoses of opiates and narcotics, and suicide, possibly due to an amelioration of the conditions of life — better roads, better means of locomotion, increased comfort in living, and less strain upon the practitioner, particularly upon the country doctor. During the last ten years 12 deaths are reported as due to alcoholism, but 11 of these occurred during the first six years of the decade; of the 18 deaths from "overdoses of opiates and hypnotics" in the whole period, there has been but one during the past three years.

THE DEBATE ON ELECTROLYSIS.

On June 21st there was a very lively debate on "Electrolysis in the Treatment of Diseases of Women," in the Obstetrical Society of London, following the reading of papers by Drs. Steavenson, Lovell Drage, Gibbons and Shaw.

Dr. Steavenson would not admit, with some, that the electrolytic action of electricity was limited to its cauterizing properties, but advocated a more extensive use of electrolysis in those diseases of women in which caustics are more usually employed. While the apparatus was cumbersome, and its management difficult, to those that could manage the apparatus electrolysis would prove a more efficient and elegant way of applying caustic than any other method. He maintained that this caustic action was true electrolytic action. Electrolysis, he said, certainly takes place at the poles, and he believes that it also takes place between the poles, in the substance of a tumor, for example. In regard to the use of electrolysis in erosions and catarrh, he had evidence to show that it is really a shorter method of cure than any other, and is a better local remedy than any caustic. So, also, urethral caruncle, he believed, is best treated by electrolysis, with cauterization of the raw surface left after removal of the growth. In order to be successful with the method the operator should be both a gynecologist and an electrician.

Dr. Steavenson claimed that not only will cicatricial tissue out of sight in the pelvic cavity disappear under electrolysis, but cicatrices at the meatus of the urethra also, and on the brawny tissue around old perineal and scrotal fistulæ.

Drs. Bantock and John Williams could not express themselves in favor of electrolysis, and the latter thought that "there might be a place for the employment of electricity in the treatment of diseases of women, but as yet no case had been made out for it." Dr. Champneys thought the discussion of the subject premature, and he was not convinced by any of the cases reported in the papers read. Dr. Galabin thought that as a caustic, electricity was valuable when the interior of the uterus required treatment and the cervix was narrow; in other respects it was scarcely superior to other caustic agents.

Dr. Playfair declared that they that had really mastered the technical details of electrolysis had never found the method useless. From personal experience he had sufficient evidence to satisfy himself that the agent had great power, but that much was yet to be learned. It might do harm if injuriously and unskillfully used, but that truth furnished no argument for rejecting electrolysis as a therapeutic agent, but rather demonstrated that the effects of the new method must be carefully studied, and its dangers detected and avoided. Dr. Inglis Parsons believed that electrolysis would prove successful in hæmorrhagic cases whenever the electrode could be made to touch the whole of the bleeding surface. Dr. Routh compared the opposition to the electrical

treatment of diseases of women to the similar opposition to the sound and to ovariotomy in past days. They that have no experience with the method cannot judge of its merits. Dr. Heywood Smith believed that electrolysis was of value in promoting the absorption of inflammatory deposits in the pelvis after the stage of active inflammation had passed away. The method should be systematically tried, in intractable cases of obscure pelvic pain.

Dr. Gibbons, while insisting that electrolysis as a means of curing fibroids deserves more trial, and will be better, if successful, than oöphorectomy or hysterectomy, said that the method gave promise in other directions; it should be carefully applied in obstinate, intractable affections like chronic metritis.

Dr. Shaw had satisfied himself by a series of experiments that electrolysis takes place between as well as at the poles. Some of the cases of failure, he says, are due to local irritation, the result of a too early or too vigorous use of the hæmostatic action of the positive pole. A preliminary or occasional resort to the derivative action of the negative pole seems to be advisable.

"SPECIALTY" ADVERTISING.

"Under the fostering care of the ethical rules of the American Medical Association," says the *Medical Record*, "there is growing in the West a practice of physicians advertising themselves as specialists in the medical journals." We have no means of knowing whether the specialists referred to are members of the American Medical Association or not. If there be anything in the ethics of the Association that would "foster" such advertising on the part of Western physicians, it would have the same effect on the physicians of the East; and our Eastern confrères will be slow to acknowledge that the Western members of the profession are ahead of them in anything. And if there be anything in the ethical rules of the Association that "fosters" such advertising, no one need fear that the Editor of the *Medical Record* would hesitate to point it out.

It may be said, however, that under the fostering care of no ethics of any kind, a surgeon of New York, who was connected with the case of the late Gen. Grant, and who has considerable connection with the *Medical Record*, manages to have himself interviewed rather frequently by newspaper reporters, the interviews being telegraphed through the country as "specials," or sent out by the news agencies. Some months ago (early in December, 1887), this surgeon was interviewed on Scheurlin's bacillus of cancer, the interview being sent to the Chicago *Times* through Ford's News Agency, of New York, and being opened with the information that the surgeon in question was a high authority on cancer — the proof of "high authority" resting on his connection with the case of Gen. Grant. Since that time interviews with this surgeon on the case of the late Emperor Frederick III. have been published in the Chicago papers, and at the time of the meeting of the Association a Cincinnati paper contained a telegraphed item, the result of an interview, stating that this surgeon had been called by cable to attend the Emperor Frederick of Germany. Inasmuch as he did not go, however, the probability of the truth of the statement is so small as to be microscopic. In these interviews this surgeon has been frequently mentioned as "an authority on cancer." If one must advertise, is it not better to advertise in medical journals than in the daily newspaper? While unprofessional advertising in medical journals is to be deplored and discountenanced, it must be remembered that only a few are so fortunate as to count reporters and interviewers among their friends; a species of good fortune that may be due in some cases to the fact that the much-interviewed medical man has at some time forcibly injected himself and his services into the case of a sick man with a National reputation.

The ability to be interviewed is frequently more than a capacity — in some cases it seems to amount to an intellectual faculty. Whether this faculty, like the poet, *nascitur, non fit*, we will not pretend to say. But it is certain that some really great men are wanting in this faculty. For example, we do not remember that we have ever seen anything that would go to show that the consultants in the case of President Garfield attempted to make capital out of their connection with that celebrated case; nor have we ever heard such a thing intimated. We do know that Dr. Agnew incurred the dislike of many a newspaper man because he resolutely refused to be interviewed. We see, therefore, that while all men in this country have

equality conferred upon them by the Constitution of the United States, Nature decrees that there shall be differences in individuals.

It is still unsafe for a person living in a glass house to throw stones.

EDITORIAL NOTES.

DR. GEORGE VON ADELMAN, the well-known Professor of Berlin, is dead.

DR. FRIEDRICH WILHELM HAGEN, Director of the Lunatic Asylum at Erlangen is dead.

DR. ADAMKIEWICZ, of Cracow, has received a silver medal from a Society in Amsterdam for his researches on peptone.

PROFESSOR VIRCHOW has been awarded the gold Boerhaave Medal for Anthropology by the Scientific Society of Haarlem.

VON BERGMANN exhibited at the late Congress of Surgeons a patient whose intestine he resected four years ago for carcinoma.

A NEW POISON BOTTLE, shaped like a coffin, and made of blue glass is the invention of Mr. O. C. Holt, of Manchester, England.

AN INTERNATIONAL PHYSIOLOGICAL CONGRESS will be held in Paris next year, under the auspices of the Société de Biologie, and under the Presidency of Brown-Séquard.

THEOPHYLLIN, a new alkaloid of tea, is the recent discovery of Professor Kossel, of Berlin. It has the composition $C_7H_8N_4O_2$, is isomeric with theobromin and with paraxanthin, but differs from these substances by its reactions. When a methyl group is introduced into theophyllin the latter is converted into caffein, and as E. Fischer has proved this to be a trimethylxanthin, theophyllin is evidently a dimethylxanthin. Physiological experiments with theophyllin will be made.

PARTHENICINE, an anti-neuralgic and antiperiodic, it is claimed, is described by DR. CARLOS J. ULRICI, of Cuba. It is obtained from Parthenum hysterophorus, of the Syantherous division of the compositæ. The alkaloid occurs in large rectangular prisms, with four sides terminating in pyramids, has no smell, a bitter taste, is slightly soluble in boiling water, alcohol, ether, and chloroform, and gives a characteristic green color with sulphuric acid and potassium bichromate.

THE SOUTH AMERICAN SANITARY CONGRESS, which recently met at Lima, was held for the object of establishing an international sanitary system among the South American States, with a view of checking the development and spread of infectious disease, especially cholera and yellow fever, and including plague. The plan provides for intelligence offices in each country, from which information will be sent out. The time of quarantine in case of cholera is to be 8 days, and 10 days in case of yellow fever. Ports are to be closed under no circumstances.

A PAD FOR A FRACTURED CLAVICLE has been made by Mr. G. E. J. Greene, of England. It consists of an irregularly shaped cresentic pad, concave on its under surface, and grooved so as to lie easily on the clavicle. A strap is attached to both ends of the pad, one of which passes over the shoulder on the injured side to be attached to the other, which is brought out under the opposite axilla. A third strap passes down from the convex border to be buckled to a belt at the waist. This splint, it is claimed, is easily applicable, maintains fractures and dislocations in perfect apposition, without undue pressure, and ensures comfort. The patient can be dressed and go about.

CARBONIC-ACID SALINE SOLUTIONS.—M. L. JACQUEMAIRE proposes the forcing of carbonic acid into saline solutions, and bottling them like soda-water, so that they will keep without developing microphytes. A pressure of 4 or 5 atmospheres is used, the bottles being specially manufactured to resist this pressure. Of course most of the gas escapes when the bottle is opened, but carbonic acid being soluble in its own volume of water, enough gas will be retained to keep the solution clear for about a month, Jacquemaire claims, even when the bottle is opened four or five times a day. He experimented especially with solutions of lactophosphate and biphosphate of lime, pyrophosphate of ammoniocitrate of iron, peptone and pepsin. The antiseptic agents sometimes added to salt solutions are undesirable, but carbonic acid is always harmless.

BARIUM AND DIGITALIS, as has been found by DR. A. BARY, of Dorpat, are somewhat similar in their actions on the heart. It was found that in small doses chloride of barium increases the action of the heart muscle, and in large doses sets

up peristaltic movements, finally arresting the heart in systole, this arrest being a tetanic spasm of the cardiac muscle, being brought to an end by muscle-paralyzing agents and by mechanical distension by fluid pressure, but by neither electricity nor by atropin. Arrest of the heart caused by muscarin and chloral ceases under use of barium chloride. In small doses barium slows the pulse of warm-blooded animals independently of the inhibitory apparatus. In large doses it first accelerates the pulse (by stimulating the accelerating nerve?), and then slows it, by causing cardiac weakness. It generally increases the blood-pressure. It increases the secretion of the saliva, when injected into the veins, this secretion being checked by atropin. In this respect its action differs from that of physostigmin, though in other respects their actions are somewhat similar.

ALBUMINURIA IN THE UNITED STATES.—At the ninety-seventh annual meeting of the Connecticut Medical Society, DR. G. R. SHEPHERD presented an elaborated statistical report on albuminuria, compiled from examinations made on supposed healthy men. The following general conclusions were drawn: Albuminuria is much less frequent in the United States than in England, Stewart giving 31 per cent. as the general average, while ours, conducted on a much larger scale, show but 2 per cent. 2. The brain-workers, rather than the muscle-workers, show the largest percentage of albuminuria. 3. The urine of perfectly healthy people rarely shows albumin after food, while those who suffer from albuminuria and oxaluria are very liable to show it. 4. Privation, scanty food and clothing, with insanitary surroundings, increase the liability to albuminuria. 5. Cold bathing does increase the liability to albuminuria, though more notably so in the case of dyspeptics. 6. Severe exercise increases this liability in a very moderate degree. 7. In the large majority of cases albuminuria is not associated with kidney disease. 8. In the matter of life insurance albuminuria should be looked upon as a symptom only, and acceptance or rejection of the risk should depend on the gravity of the cause. 9. The existence of any such condition as physiological albuminuria is extremely improbable.

In consideration of the sweeping character of conclusion No. 7, it should be explained what is meant by "kidney disease."

SOCIETY PROCEEDINGS.

GYNÆCOLOGICAL SOCIETY OF CHICAGO.

Regular Meeting, Friday, April 20, 1888.

THE PRESIDENT, HENRY T. BYFORD, M.D., IN THE CHAIR.

(*Concluded from page 65.*)

Conclusion of DR. W. W. JAGGARD'S paper on

CONSERVATIVE CÆSAREAN SECTION.

Pelvimetry.—Dr. R. P. Harris writes in a recent communication to the *Medical News*, March 31st, 1888: "What is wanted now is a better acquaintance with pelvimetry, and the steps of the improved operation, as it is performed in Leipzig, Dresden, and New York." No one doubts the truth of this proposition, The notion of pelvimetry generally entertained is obscure and confused in the extreme. Dr. E. C. Dudley informs me that a few weeks ago he encountered a case in which a wife, desirous of becoming a mother, confessed to the practice of the prevention of conception through a period of ten years, under the advice of two distinguished practitioners, upon the ground of alleged contracted pelvis. Careful measurements revealed the fact that the pelvis was unusually large. The woman has since become pregnant. Many of the cases of Cæsarean section recorded in American annals are rendered well-nigh valueless for the purposes of comparative study by the omission of accurate pelvic measurements. The exact determination of the size and form of the pelvis constitutes one of the most difficult problems in obstetrics. A survey of the enormous mass of literature upon this subject fully confirms this opinion. As an excellent critical, historical review of the subject, I beg to recommend the monograph[1] of Dr. Felix Skutsch. While all methods of pelvimetry fail to yield absolutely accurate measurements, and our notion of the pelvic anomaly in the concrete case must be inexact to a degree corresponding, still the diameters and dimensions just mentioned are amply sufficient to establish the probable diagnosis of the shape and relative size of the pelvis in the individual case of the more usual types of deformity, and to afford data for comparative study, and ground for action.

I append the corresponding normal diameters and dimensions as given by Carl Braun and Schrœder:

Distance between anterior superior spinous processes	26 cm.
Distance between iliac crests	29 cm.
External conjugate diameter (Baudelocque)	20¼ cm.

[1] "Die Beckenmessung an der lebenden Frau." Jena, Gustav Fischer. 1887.

Distance from sacro-coccygeal joint to subpubic joint (A. G. Breisky)	12.3 cm.
Distance between great trochanters	31½ cm.
Pelvic circumference (Kiwisch)	90 cm.
Diagonal conjugate diameter	13 cm.
True conjugate diameter	11 cm.

II. *The Relative Indication for Cæsarean Section.*—I cannot forbear to reiterate here certain convictions that must always come up for consideration in similar cases. These propositions I beg to submit, if the expression be not too harsh, not so much as matters of opinion as matters of fact.

1. The necessary maternal mortality of craniotomy, performed under the conditions demanded in Cæsarean section as respects freedom from exhaustion and infection of the patient, with the best instrument and adequate skill, in cases of the simple, flat rachitic pelvis with a *conjugata vera* of 6 to 8 cm., is zero. The simple, flat rachitic pelvis is used as a type in this thesis on account of its relatively frequent occurrence. In the generally contracted, and in the generally contracted and flat pelvis, a *conjugata vera* greater than 6 cm. must be postulated unless, as in the case I have just reported, the fœtal head is uncommonly small. It has been reserved for Leopold to demonstrate the truth of this proposition. While in 215[2] cases of craniotomy collected from the records of the Berlin Polyclinic, the Clinic at Halle, and the Leipsic Polyclinic, the entire maternal death-rate was 5.6 per cent., the total maternity in Leopold's Clinic at Dresden during the interval, 1883–1887, after craniotomy, including 71 cases,[3] was 2.8 per cent. In these two fatal cases, the cause of death was eclampsia, so that the mortality, due to the operation itself, has been reduced to zero.

The operation, performed under its own peculiar conditions, with the best instruments, is not extraordinarily difficult. It does not imply a higher degree of operative skill than it is fair to presume every qualified practitioner possesses. I have observed in all about 30 cases of craniotomy, and have never noted especial difficulty in the technique of the operation, nor unfavorable results to the mother, when the procedure was really indicated, and when the necessary conditions were present.

On the other hand, the mortality of conservative Cæsarean section, even when the necessary conditions have been supplied, is still considerable. Of Leopold's 23 cases of the improved Cæsarean section, 2 or 8.4 per cent. died. The following extract from a letter recently received from Dr. Robert P. Harris is of interest in connection with American statistics:

"Your case make 16 Sänger-Cæsarean sections for the United States, with 7 recoveries; and 165 for the whole Cæsarean list, with 63 women saved.

"I have 12 cases on record for the last fifteen months, with 6 women and 9 children saved; yours makes the thirteenth. There were 8 operations in 1887, all Sänger's but one, with 4 women and 5 children saved. I have 3 cases in already for this year; one each for January, February, and March; 1 woman and 3 children saved."

The Cæsarean section is, and must always remain, the most difficult, dangerous, and formidable procedure in operative obstetrics. The shock incident to the operation, entirely apart from sepsis and the loss of blood, is an element of danger that can never be completely eliminated. It is, perhaps, needless to remark that the successful performance of this operation does imply such a high degree of operative skill, and such an experience in this particular operation, as it is fair to presume the average practitioner does not possess.

As remarked by Leopold,[4] "The time has not yet arrived when craniotomy upon the living child can be unconditionally substituted by Cæsarean section. In a good many cases perforation may be avoided, and in a still larger proportion it cannot be dispensed with."

And Praeger[5] draws this important conclusion, "In cases presenting the relative indication, and which in a hospital might be subjected to Cæsarean section, the general practitioner, as a rule, ought only to consider craniotomy as the operation involving least risk to the mother."

2. The consent of the patient, obtained without direct or indirect coercion, is an essential condition to the relative indication. The time will probably come when under certain circumstances—*ex. gr.* in hospital practice—the woman shall not be permitted to elect as freely as she must be allowed to do at present.

3. The life of the adult female, who has already contracted relations with society, is of incomparatively greater value, as judged by human standards, than the problematical existence of an unborn babe. Moreover, the expectancy of life in such children is decidedly less than in children of normal birth. If the operation is performed before the objective changes of labor are evident, as in the case under discussion, there is the risk of premature introduction of pregnancy, of obviously serious prognostic moment with reference to the child. The necessary early ligature of the cord deprives the infant of an average amount of blood of 92 grams (Budin, Ribemont). The mother is seldom able, even if she were to be permitted, to suckle her child. Finally, the offspring of women, affected with rachitis or osteomalacia, are frequently feeble, sickly, and unable to resist the unfavorable influence of the environment, entirely apart from the effect of hereditary disease. It is not my intention to use the death of the child in this particular case as an illustration of the truth of the statement just made,

[2] Wyder, Archiv. f. Gyn., Bd. xxxii., Hft. 1, p. 60.
[3] Leopold, "Der Kaiserschnitt," etc., Stuttgart, 1888.
[4] L. c., p. 164.
[5] L. c., p. 116.

since in my judgment that event occurred chiefly as the result of most gross carelessness, *i.e.*, exposure of the child before an open window on one of those bitterly cold days in the latter part of March. Of the twenty-three children delivered alive by Leopold, one died a few hours after the operation (neglected shoulder presentation, laceration of the liver), eight died principally from cholera infantum within from three weeks to one year of the operation, eleven were living at the expiration of one year. The fate of three is unknown.

I do not wish to be regarded as an obstructionist, but desire merely to utter a voice of warning. In this "Cæsarean Revolution in Progress in the United States," let us go slowly. In the words of Professor Cameron, of Montreal, that I quote from a letter, and without his permission, "Too much has been claimed for the section, a reaction is bound to set in ere long." Draw the lines of indication and condition more exactly, and surrender the operation to a special class of practitioners.

III. *The Operation.*—The items of special interest in connection with this particular case of Cæsarean section are:

1. In the selection of the time of operation, I acted upon Schroeder's advice, and chose the latest possible moment before labor actually began. The advantages of an aseptic genital canal, daylight, adequate assistance, and the like outweigh the danger of atony after evacuation of the uterus. The researches of J. Braxton Hicks[6] on "The intermittent contractions of the uterus during the whole of pregnancy" are perfectly familiar to the English-reading profession. In a recent note this observer writes, "These intermittent contractions, always going one, are ready to be intensified by any exciting cause, and especially so at the periods of the suspended menstruation." . . . "The rapidity with which labor can be induced at almost any time of pregnancy is explained now quite readily. Formerly the fact was not explained; indeed, the time for termination of delivery can be precisely stated—the whole process done to order, as Dr. Robert Barnes and myself have pointed out. Dilate the os by elastic bags, turn the fœtus by my method, and in two hours generally the fœtus is expelled. The whole need not occupy more than from six to eight hours." I was present some years ago at a Cæsarean section performed shortly before term by Professor Spaeth, assisted by Dr. Lumbe and Dr. Ehrendorfer. In this case, as in my own, there was no difficulty in securing retraction after the evacuation of the viscus. Of course, one runs the risk of moment to the child—of interrupting pregnancy some time before term, since only an approximate estimate of the time of gestation can be made from the data we can at present command.

2. The uterus was incised *in situ* and the liquor amnii evacuated through the abdominal cut. Leopold recommends the eventration of the uterus before incision, and it is the common custom to rupture the amnion *per vaginam*. Sänger, in his paper read at the International Medical Congress, recommends the course pursued in this case. I had confidence in the ability of Dr. Holmes' hands to keep blood and liquor amnii out of the peritoneal cavity, and a short cut is of obvious advantage in retaining the intestinal mass within the abdominal cavity, not to mention other benefits.

3. Hæmorrhage was controlled by the normal tonus of the uterus and digital compression of the lower uterine segment. I did not apply the elastic ligature around the lower uterine segment before or after the uterine incision on account of the danger of paralysis of the structures at and below the point of compression, a danger to which Sänger[7], Doleris, and others have called attention. The amount of blood lost during the incision need not be much greater *without* than *with* the elastic ligature. It need not be much more than the amount of blood in the uterus at the time the incision is begun, provided the subsequent procedures are executed quickly. The quantity of blood in the uterus at the time the incision is begun is necessarily lost.

4. The long laparotomy needle of Thomas Keith rendered the closure of the uterine wound easily and comparatively rapid. The puncture is very small, and is completely filled out by the suture material.

5. The suture material used in this case was silk. The influence of the suture material on the functions of the uterus, meustruation and pregnancy, is a question of grave practical moment. Leopold has rejected silver wire entirely and prefers chrome catgut to silk. In nine consecutive cases he has used this material with entire satisfaction.

The superficial uterine suture was intended to effect linear union of the incised peritoneum, and no attempt was made to fold that membrane into the divided muscularis in order to oppose peritoneal surfaces of relatively great areas. This constitutes a departure from Sänger's method. Schröder pointed out the essential weakness in the sero-serous suture, when he called attention to the fact that incised wounds with their edges accurately approximated are surer to heal than opposed peritoneal surfaces. In order that opposed peritoneal surfaces should unite, some new irritation is necessary to produce adhesive inflammation. This observation has since been confirmed by the investigation of Zweifel, Graser[8] and J. Veit.[9]

he Lancet, p. 554, March 17, 1888.

[7] Transactions of Ninth International Medical Congress.
[8] Habilitationschrift, Erlanger, 1886.
[9] Deutsche med. Wochenschr., 1888, No. 17.

DR. C. T. PARKES: As I was present at Dr. Etheridge's operation, I should like to say a few words in regard to some of the impressions made upon me by the operation. First, in regard to its severity: so far as my experience goes with disease or injury affecting the abdominal cavity, I am sure I have been through cases quite often that would give me a great deal more anxiety, and be found more troublesome to manage than the doing of this operation. It struck me as being a very simple operation, at least to any one who is accustomed to having anything at all to do with the abdominal cavity. In the first place, the uterus is so large and it fills up so much of the cavity of the abdomen, that all the other viscera are out of the way, as was beautifully illustrated by Dr. Jaggard; there was nothing to be seen when the abdominal cavity was opened except the uterus, and it was very easy for the surgeon to open it. It was one of the easiest things imaginable to get the contents of the uterus out. So far as the flow of blood was concerned, I did not think there was any great amount of blood lost, considering the tissues divided and the size of the vessels cut. The gush is at first rather astonishing, but after a little time there is a rapid cessation of the bleeding. The bleeding in this case was very readily controlled by compression, and it did not strike me as being hurtful to the patient. I am quite sure she did not show any of the signs that are so often present when a large amount of blood is lost in other parts of the body. I am sorry that a complete post-mortem was not made after the death of the patient because I was very desirous of seeing the result of the manner of suturing that was adopted, because it struck me as being very safe. After the suturing was done, the wound was perfectly dry in every way, and after this part of the work was over and the operation done, with the exception of closing the abdominal wound, no sponging was required. There seemed to be no trouble in keeping everything out of the abdominal cavity, either amniotic fluid or blood.

Another point struck me in this case, not directly in connection with Cæsarean section, but as interesting in obstetrics. I have always been taught and always supposed that, during the development of the uterus in the latter stages of pregnancy, all parts were dilated, that the cervix was opened out and became part of the body, that it was thinned out so that the cervix and body became continuous, but to my astonishment, when the body of this uterus was exposed, the cervix was perfect in shape and retained the same relation to the body as in the normal state. There did not seem to be any losing of the cervix in the body by dilatation.

DR. J. C. HOAG: With regard to the technique of the operation, I remember to have read that on one occasion, when there was quite profuse hæmorrhage, and where retraction and contraction did not take place after the operation, the operator was bold enough to keep the uterus open for an hour and a half, keeping it packed with ice, and that the patient made a good recovery. I have also noticed somewhere that some operator has suggested the advisability of putting in a few sutures in the abdominal wound previous to incising the uterus, so that after removing the child the walls might be drawn together somewhat, and thus aid in the prevention of accumulations in the peritoneum.

DR. CHARLES WARRINGTON EARL: I would like to ask Dr. Etheridge one question: Were you able, in the time at your command, to make any effort at trying to find, through the incision in the abdominal wall, the nature of that obstruction below? You knew there was a fluctuating tumor there, did you examine it at the time of the operation?

DR. ETHERIDGE: I did not. I was so anxious to close up everything and get it out of the way that I did nothing of the sort. I was very greatly disappointed in our inability to secure a post-mortem examination. The next morning when I reached the hospital, about half-past nine, the body had been taken away, so that that part of it will always have to remain obscure. In regard to doing the other operation of opening the abscess and letting the discharge come away from it, I can say this: I have my doubts as to the possibility of saving the woman under the circumstances, from the fact that the pelvic cavity was not sufficiently enlarged by the evacuation of the tumor to admit of pulling the child through. This still constitutes, in my mind, an imperative objection to opening the tumor before the attempt at Cæsarean section.

DR. W. W. JAGGARD, in closing the discussion, said he was grateful to the Fellows for the kind attention given to his paper. He thought Dr. Parkes' notion of Cæsarean section as expressed in his own words, was erroneous and calculated to mislead. The *technique* of the operation is apparently simple, but the dangers of shock, hæmorrhage, and sepsis are constantly present, and every minutest detail demanded the most critical attention. The terrible mortality of the operation with us in the United States abundantly demonstrates its formidable character.

DR. CHARLES T. PARKES read a report of

FIRST FIFTY OPERATIONS FOR OVARIAN TUMORS.

The mortality in these cases was 4 per cent. I shall attempt to group together, in a somewhat practical way, the deductions which come to my mind as the outgrowth of this amount of work. The attempts to secure asepsis—to surely save one's patient from the dangers of fermentation, suppuration, and decomposition of wound secretions—brooks no neglect of any kind, in the

items already mentioned. Nothing that is used or brought in contact with the patient should be allowed to pass without the closest inspection by the operator himself. The patient puts her life in the operator's hands, not in those of an assistant, and is entitled to the former's own care and attention to the smallest detail in the preparations of needles, forceps, and instruments of all kinds, ligatures, sponges, and dressings. Sponges should not be used the second time in abdominal operations, no matter how well they are cleaned.

The greatest diligence should be observed in keeping everything harmful out of the peritoneal cavity. Reference is made not so much to foreign bodies of large or small size, although such ought never to occur, as to the escape of the contents of the cyst into the cavity. The contents can usually be kept out of the peritoneal sac by making the cyst constantly expand the edges of the abdominal incision during the necessary manipulations, by careful pressure against the tumor by an assistant.

The ligatures used have always been of carbolized silk, and they have never given rise to any trouble. In the greatest number of cases the pedicle has been clamped, the tumor removed and the stump thoroughly cauterized down even with the clamp. Then the pedicle was sufficiently subdivided just below the clamp and ligated with silk, after which the clamp was removed and the stump dropped. I have never had, following this method, any bleeding, or been called upon to reapply the ligature, or fish up a stump out of the pelvis after it had been dropped, to stay hæmorrhage. It is the method used by Dr. Homan, of Boston.

The ends of a ligature just tied should not be used for the purpose of bringing the tied tissue into view for inspection, especially against using them to in any way steady or lift the pedicle.

My experience confirms the great worth and necessity for the drainage-tube in many cases. Cases with many vascular adhesions leaving extensive oozing surfaces seem to always require the drain. Many cases would undoubtedly do better with it, even in which the raw surface is not large. One is more apt to err on the side of leaving it out than of making use of it too frequently. It Takes but little over-weight of absorption and elimination of even not badly contaminated fluids to upset a patient's easy recovery, which might have all been obviated by the use of a drain for 24 or 48 hours. I have not noticed much difference in its workings, whether it be of glass or rubber.

The abdominal wound has always been closed with the silk suture passed carefully and carried through the different layers of the abdominal walls, including the peritoneum. It does not seem that any more satisfactory method has been advanced. It is quickly executed, and absolutely trustworthy in the vast majority of cases. Two of my cases have had ventral hernia follow, but I am inclined to think other things had something to do with the occurrence of the complication; such as too early assumption of the erect position, too free motion, and discarding the abdominal support too soon. In very thick, fat walls, the use of three or four button-stay sutures, introduced well away from the edges of the incision, is of great advantage in maintaining the parts in apposition and conducing to early and firm union.

In the after-treatment of the earlier cases, it was the rule to use the catheter to empty the bladder six hours after operating. Quite a number of the cases developed a troublesome cystitis and in some cases a urethritis, no matter what care was taken with the instrument or in its introduction. Of late it is not used unless absolutely required. The patient is induced to make earnest efforts at self-relief, and success generally follows these efforts, and cystitis has ceased to be a complication.

It has become my habit not to feel concerned about a temperature up to 101° Fahrenheit, coming during the first three or four days after an operation, if it be unaccompanied with unusual pain, headache, or anorexia. By securing a free action from the bowels by the administration of 5 grs. of hydrarg. submur., followed in due time by some saline cathartic, and urging the patient to partake freely of water, the temperature ordinarily drops to about normal in twenty-four hours. If, with a nearly normal temperature for several days after operation, it suddenly mounts to 100° or more, some complication is impending, and it must be sought for with great care. Latterly it has been a surprise to me how many of the cases go on to a safe recovery without the administration of any medicine. If sepsis is avoided the individual's own powers of repair seems entirely competent to combat other complications with the simplest of assistance. When the pain is a complication, rectal injection of the tr. opii deodorata, in full, free doses (30 drops or more), has always seemed to cause the least disturbance and accomplish the best results.

The internal remedies from which the best results have been obtained for the relief of tympanites are the spts. terabintha and tr. nux vomica; the former to allay gaseous fermentation and as an antiseptic; the latter acting probably as a stimulant to intestinal peristalsis. It has never seemed to me that much if any good was accomplished by the rectal tube. It is not my wish to advise against its use, for many operators believe in its efficiency and use it constantly.

Tympanites, like so many other complications when they come, is usually the result of septic infection, and is best dealt with by keeping the germs away from the patient before, during, and after the operation.

The fluid I am in the habit of using for purposes of washing or irrigation is plain distilled or boiled water, with the addition of a small quantity of carbolic acid, making a solution of a strength of about 2 per cent. It does not seem certain that the germicidal power of this solution is of much consequence, still it does not seem worth while to dispense with it entirely. In washing out the peritoneal cavity, if occasion requires, a strong solution of boracic acid is used, and has done its work harmlessly and satisfactorily. Of course, reference is made here entirely to ovarian tumors, pure and simple. Infected cases, with pus present and other harmful fluids, require more powerful antiseptics and assiduous care in getting rid of their presence by every known means.

It seems to be of paramount importance to institute such care of the patient as will most surely prevent, diminish, or overcome the occurrence of shock. After every severe operation, much can be done by the use of external warmth and also care during the progress, by keeping wet clothes away from the body. I am still convinced of the efficacy of morphia and quinia administered half an hour or so previous to the commencement of an operation.

It can scarcely be denied that the patients do best if little, or better still, nothing is put into the stomach for twenty-four hours or more. If introduced, the effect is merely to increase the disposition to vomit.

DOMESTIC CORRESPONDENCE.

The New Orleans Medical and Surgical Journal and the Louisiana State Medical Society.

To the Members of the Louisiana State Medical Society:

Gentlemen:—The undersigned respectfully direct the attention of the officers and members of the Louisiana State Medical Society to a matter of importance which was brought to our notice on the 11th of June, 1888, by one of our most venerable and active members. The eminent physician and surgeon asks:

"Have you read in the June issue of the *New Orleans Med. and Surg. Journal* the editorial strictures upon the last meeting of the Louisiana State Medical Society? How shall such ill-natured and scurrilous criticisms be met? What is demanded of physicians attending the meeting at Monroe; and how shall they meet the rude, unjust and unprofessional attack?"

The "*ill-natured, scurrilous*, unjust and unprofessional criticisms" alluded to are to be found in the June number of the *New Orleans Med. and Surg. Journal*, 1888, pp. 984–987, under the head of "Leading Articles," and title "The Tenth Annual Meeting of the State Medical Society." The quotations from the "editorial" will be confined to such portions as will illustrate the *animus* of the editorial staff of the *New Orleans Med. and Surg. Journal* in its attempt to defame and destroy the Louisiana State Medical Society.

The editors of the *New Orleans Med. and Surg. Journal* say: "Although, as we stated in our last number, owing to duties from which there was no escape, none of our staff was able to be present at the annual meeting of the State Medical Society at Monroe, we gather from the official minutes of the recording Secretary, which we published, that the meeting was characterized by the same indifference, idleness and slipshod irresponsibility that has for years made the Medical Society of Louisiana a disgrace instead of a pride to the profession of the State" (p. 984).

"A meeting of the Medical Society of any one of our sister States means the assemblage of all the best and wisest members of the profession, to consider well digested plans for the advancement of our interests, and the regulation of our conduct; to hear and discuss the latest and most valuable contributions that they are able to offer for mutual help and profit. *A meeting of the Louisiana Medical Society is the straggling together, in some locality, of a dozen or so of languid, inconsequent, unprepared medical men, bent for the most part upon a few days of rest, cigar-smoking and story-telling. . . .*" (p. 985).

"It is in no captious spirit that we write these lines, but it must have become apparent to every earnest man that the Louisiana State Medical Society should either undergo a great awakening and revivication, or be abandoned, cleared away as a useless time consumer and cumberer of the earth" (p. 987).

It is evident from the preceding quotations that the editorial staff of the *New Orleans Med. and Surg. Journal* have, without provocation and without warning, attacked not merely the body of earnest, laborious, patriotic and skilled physicians who assembled at Monroe on the 25th of April, 1888, but have endeavored, through the pages of their journal, to arraign the intelligence and medical attainments of the entire body of medical gentlemen composing the Louisiana State Medical Society. No honorable member of the medical profession objects to honest and courteous criticism, designed to advance the cause of science; but the wholesale abuse and slander of a medical society composed of two hundred gentlemen distinguished for their professional attainments and benevolent labors for the advancement of the highest and best interests of the citizens of Louisiana, should receive such brief, but decided condemnation as will place the authors in their true light before the medical profession.

We will consider this subject under two aspects,

namely: *First*, the relation of the editorial staff of the *New Orleans Med. and Surg. Journal* to the Louisiana State Medical Society. *Second*, the truth or falsehood of the statements of the staff of the *New Orleans Med. and Surg. Journal* with reference to the meeting of the State Medical Society in Monroe and elsewhere.

First. *The relations of the editorial staff of the New Orleans Medical and Surgical Journal to the Louisiana State Medical Society.* The following table has been drawn up from the record of the Louisiana State Medical Society, and from the *Medical Journal*, and shows that of the eight editors, seven are members of the Louisiana Medical Society, and four of the members have received appointments as members and chairmen of standing committees, and two of them have been honored with the position of Vice-President and one of them holds the position of Treasurer and Librarian.

Name.	Address.	Date of Graduation in Medicine.	Date of Joining La. State Med. Society.	Honors and Positions conferred by the Louisiana State Medical Society, and dates thereof.
Geo. B. Lawrason, M.D.	New Orleans.	1883	1884	Member of Committee on Publication.
Henry Dickson Bruns, M.D.	New Orleans.	1881	1884	Annual Orator. Address delivered at New Iberia, 1886; Chm'n of Com. on Revision of Constitution and By-laws, 1886–87; member Com. on Scientific Essays, 1887–88; Com. on Organization, 1887–88; on Necrology, 1887–88; Vice-Pres. 2d Congressional Dist. Louisiana, 1887–88.
F. W. Parham, M.D	New Orleans.	1879	1879	Treas. and Librarian 1885–88; mem. Com. on Publication, 1886–88; Com. on Rev. of Constitut'n, 1886–87; Com. on Necro'ogy, 1887–88; Com. on Organization, 1887–88; Vice-Pres. 1st Congressional Dist., 1887–88.
Jno. H. Bemiss, M.D	New Orleans.	1878	1884	Member of the Committee on Publication.
P. E. Archinard, M.D.	New Orleans.	1882	1885	
A. McShane, M.D.	New Orleans.	1882	1885	
E. L. Bemiss, M.D.	New Orleans.			
H. W. Blanck, M.D.		1884	1887	

From the preceding record it is evident, first, of the editorial staff of the *New Orleans Med. and Surg. Journal*, not one has served in the ranks of the profession more than ten years; the stench, therefore, which the editorial of June, 1888, has created in the nostrils of many of the venerable and experienced members of the Louisiana State Medical Society, must be referred to the inexperience and enthusiastic caviling of youth.

At the time of the meeting of the State Medical Society at Monroe, Dr. F. W. Parham held the position of Treasurer and Librarian and Vice-President of the First Congressional District, Dr. Henry Dickson Bruns held the position of Vice-President of the Second Congressional District, acting Chairman of the Committee on Scientific Essays, Chairman of the Committee on Revision of the Constitution, and member of the Committees on Organization and Necrology. Dr. Archinard was a member of the Committee on Publication.

The editorial staff of the *New Orleans Med. and Surg. Journal* have been honored and trusted by the Louisiana State Medical Society, and they have, when it suited their convenience, used the valuable reports and original papers read and presented by the officers and members of the Society to fill the pages of the *Journal*.

The most important matter for the action of the Society at its tenth annual session was the discussion, adoption or rejection of the revised constitution and by-laws, which had been printed in parallel columns with the old constitution in the Transactions of 1887. Dr. Bruns was the originator of this movement, at the New Iberia meeting, and the Committee consisted of Dr. H. D. Bruns, Dr. F. W. Parham, and Dr. A. B. Miles. Dr. Bruns was not only absent from the meeting at Monroe but, as far as our information extends, failed to address an official communication to the Louisiana State Medical Society explaining his failure to appear.

Whatever may be the limits of the circulation, or the professional standing of a medical journal, it should be borne in mind that it is an integral portion of the medical press of the country, and through its exchanges reaches far and wide for good or for evil.

If the "*Medical Society of Louisiana has been for years a disgrace instead of a pride to the profession of the State*," why did the editors of the *New Orleans Med. and Surg. Journal* hold membership, enjoy its honors, and use its valuable papers to enlighten and benefit their subscribers?

If the condition of things described by the editorial staff of the *New Orleans Med. and Surg. Journal* really existed, why did not the editors have the manhood to denounce these evils in person, face to face with their fellow-members, and from the high positions to which they had been elected?

Was it just and right to use the medical press to abuse and traduce their fellow-members?

Does the holding of position in the great army of American medical editors absolve men from the ordinary rules and dictates of friendship and professional courtesy?

Second. *The tenth annual meeting of the Louisiana State Medical Society, at Monroe, Louisiana, April 25 and 26, 1888.*—The gentlemen comprising this assemblage were about equal in numbers

to those assembled at New Iberia and Alexandria, the number of new members elected being 12 at New Iberia, 16 at Alexandria, and 16 at Monroe; total new members added to the Louisiana State Medical Society in 1886, 1887 and 1888, 44. The total number of permanent members to the meeting at New Iberia was 150; thus we have during the past three years an increment of nearly 30 per cent., or, more accurately, 29.3 per cent. When we reflect that the Louisiana State Medical Society had practically no existence until 1878, we must regard the steady increase in its members as proof that the medical profession in Louisiana regard its membership as an honor.

In medical attainments, earnestness, courteous and manly bearing, the medical gentlemen who assembled at Monroe, were the peers of the members of any similar gathering in Louisiana or any other State in this Republic.

The daily sessions were distinguished by careful and continuous scientific and executive labors, by harmony, and by courteous regard to parliamentary rules. The entire time of the sessions was devoted to the reading and discussion of papers, and the transaction of important business. The relative amount of scientific work accomplished may be seen from the following record of the past three meetings of the State Medical Society: Number of papers read at the New Iberia meeting, in 1886, 11; number of papers read at Alexandria, 1887, 16; number of papers read at Monroe, 1888, 14. Total, 41.

The character of the labors of the State Medical Society at Monroe will be shown to the medical profession in due time in the printed Transactions of 1888, which will vindicate the high attainments of the representatives of the regular medical profession.

The results of the meeting at Monroe are especially worthy of note when it is considered that the State of Louisiana had just passed through a heated political campaign, which had engaged the close attention and monopolized the energies of the citizens for several months; and when it is also remembered that Monroe is the most distant town from the large centres of population at which a meeting has been held, and is also comparatively inaccessible.

Louisiana suffered severely during the Civil War of 1861–1865, which overthrew her system of labor and destroyed the lives of many of her citizens. It was not until 1877 that there was any proper recognition by the Federal Government of the political and civil rights of a citizen of Louisiana.

With this change came the revival of the State Medical Society, and the little band of medical men, devoted to the advancement of the interests of the citizens and to the profession of their beloved State, has been steadily marching onwards, with the hope that they will, in time, enroll within their ranks every honorable member of the regular medical profession, and gradually perfect and establish all measures relating to the elevation and protection of the medical profession of Louisiana.

It is not true, therefore, that "the Tenth Annual Meeting of the State Medical Society, at Monroe, Louisiana, was characterized by indifference, idleness and slip-shod irresponsibility."

It is not true, therefore that "the meetings of the Louisiana Medical Society are the straggling together of a dozen or so, of languid, inconsequent, unprepared medical men, bent for the most part upon a few days of rest, cigar-smoking and story-telling."

Respectfully submitted,

JOSEPH JONES, M.D.,

Late President of Louisiana State Medical Society, Presiding Officer, Monroe, La., April 25 and 26, 1888, New Orleans, La.

J. J. Newton, Jr., M.D., President Louisiana State Medical Society, Bastrop, La.

Richard H. Day, M.D., Ex-President Louisiana State Medical Society, Baton Rouge, La.

T. O. Brewer, M.D., Chairman of the Committee of Arrangements for the Tenth Annual Meeting of the Louisiana Medical Society; and Vice-President for the Fifth Congressional District, Monroe, La.

J. D. Dupreé, M.D., Ex-President Louisana State Medical Society, Baton Rouge, La.

G. G. Belford, M.D., Bastrop, La.

Thomas Buffington, M.D., Baton Rouge, La.

T. G. Bridges, M.D., Bastrop, La.

W. R. McCreight, M.D., Bastrop, La.

T. M. Thornhill, M.D., Ex-Vice-President for the Fourth Congressional District, Arcadia, La.

J. M. Patterson, M.D., Arcadia, La.

W. O. White, M.D., Vice-President Third Congressional District, Abbeville, La.

J. C. Brown, M.D., Arcadia, La.

W. R. Aishman, M.D., President Vermillion Parish Medical Society, and other members of the Louisiana State Medical Society.

Transactions Ninth International Medical Congress Corrections.

Dear Sir: As THE JOURNAL seems the medium through which information will most promptly reach the largest number of readers of the Transactions of the Ninth International Medical Congress, I ask you to publish the following corrections:

Vol. II, page 34, line 9, for "equati*ons* $(\frac{15.0}{20}+6.0)$ x 2640 = 42240," read, "equati*on* $(\frac{15.0}{20}+6.0)$ x 2640=27.720."

Page 39, line 20, for "*great* ration," read *given* ration."

Page 40, third line from bottom, for "*0.576*," read, *0.0576*.

Page 40, tenth line from bottom, for (Vide. p. *8*) read, (Vide. p. *36*).

Page 44, line 13, for figures on page *40*, read "figures on page *41*, *viz. N 17.—C 562 grs.*"

Page 47, Total Ration B., for "30. oz." read 30. *4* oz.

Your obedient servant,

JOS. R. SMITH,
Lieut-Col. and Surgeon, U. S. Army.

St. Paul, Minn., June 27, 1888.

NECROLOGY.

A. Y. P. GARNETT, M.D.

GARNETT (ALEXANDER YELVERTON PAYTON), M.D., of Washington City, was born in Essex County, Va., Sept. 19, 1820, and died suddenly of heart failure, at the "Bright House," Rehoboth Beach, Delaware, on the evening of July 11, 1888. He was the son of Muscoe and Maria Wills Battle Garnett, who resided on a productive plantation near the Rappohanock River. One brother, an eminent lawyer, resides in Richmond, Va. As was the custom with well-to-do Virginians, when the doctor was a youth he was taught by private instructors, in his father's house. There he acquired a substantial education, including a knowledge of the classics and of French. Having selected medicine as a profession, and having read over the text-books, he attended the usual course of Lectures at the University of Pennsylvania, and received therefrom the degree of M.D. in 1841. His thesis submitted to the faculty on the occasion was on "Extra-uterine Gestation."

Shortly after obtaining his degree he presented himself before a Board of Naval Surgeons, and having passed a satisfactory examination, was commissioned an Assistant Surgeon in the U. S. Navy. In a few years he was promoted to Post-Assistant Surgeon. After serving for five years at sea in different parts of the world, he was stationed at the Navy Yard in Washington. Having married and desiring to be with his family, in 1848, he resigned from the service, and began practice in Washington. In 1851 he was enrolled as a member of the Medical Society, of the District of Columbia, and also a member of the Medical Association of the D. C. the same year. He joined the Pathological Society about the same time, and in 1852 he was elected its secretary. In these he held in succession the various offices, including that of the presidency. In 1852 he became a member of the American Medical Association, an organization to which he was much attached, and attended its meetings in 1853, 56, 68, 70, 76, 81, 83, 84, 85, 86, 87 and 1888. The last year he was the president-elect and presiding officer, and delivered on the occasion of his taking the chair, a most able address.

Dr. Garnett was one of the original members of the American Climatological Society, and presented to it some able papers, and had one in course of preparation to be read at its next meeting. About 1858 he was appointed physician to the United States Penitentary, which then and until after the war, stood at the foot of 4½ Street. The remaining parts of the old prison are now enclosed within the Arsenal or U. S. Artillery parade grounds. In 1858 he was elected Professor of Clinical Medicine in the National Medical College. Dr. Garnett "went south," as it is generally phrased, at the beginning of the war between the States, and, of course, vacated his chair in the medical faculty. During the Civil War he served as surgeon in the Confederate States Army, and was placed on duty in Richmond and had charge of two hospitals, and was at the same time a member of the Board of Medical Examiners for the Confederate Army. His professional ability, his character as a man, and his elegant address made him a favorite so that he was much employed as a family physician as well as sought after by the heads of the Confederate Government and officers on duty at Richmond. He was not only the physician and a valued trusted friend of Jefferson Davis, President of the Southern Confederacy, but of Gen. Lee and his family, and of most, if not all the families of the Cabinet officers of the Confederacy. He remained at the post assigned him until the surrender at Appomatox, and a new order of things assumed control. The cause for which he started life and fortune was lost. But the Union was saved. With health shattered, but with a brave heart, he returned to Washington a poor man, to begin life, as it were, again. Dr. Garnett had, before the war, by his energy and devotion to his profession, acquired considerable property in Washington. His life estate on this was, as a matter of course, confiscated by the Government of the United States. He was, however, enabled after a time to repurchase a portion of his property, and in this way saved something from the wreck.

Some time after resuming his practice, he was elected to the Chair of Practice in the National Medical College which he filled with ability until he resigned in 1870, because of the increasing demand upon his time by professional engagements when he was elected Emeritus Professor, which position he held at the time of his death. He was always a well prepared, fluent, graceful and entertaining lecturer, because he was a constant and careful reader of the latest and best works available.

Dr. Garnett's practice in Washington, as it had been in Richmond, was largely among the élite,

the wealthy and the more cultured classes, although he never refused his services to the poor or took a fee from a poor soldier. In the sick room he was sympathetic and encouraging, in his diagnosis he was thorough and searching, and in remedies heroic when such a course was demanded. To his patients he gave the most conscientious attention in season and out of season. Nature, as well as education and training, had made him the efficient friend of the sick, ever suggesting for them means to hasten their recovery and afford to them additional comforts in their confinement.

Among the public institutions in Washington, to which Dr. Garnett has been actively connected, are the Columbia Hospital for Women and the Children's Hospital, in which he was one of the Board of Directors as well as one of the consulting physicians. He has also served on the consulting staff of the Garfield Hospital since it was opened, and for many years he has been consulting physician to St. Ann's Asylum for foundlings, the Central Dispensary, and Emergency Hospital of which he has been one of the consulting physicians ever since it was founded.

Dr. Garnett, while devoted to his profession and fully accepting the obligations which a fulfillment of its duties demanded, nevertheless was public spirited and identified himself with all measures which interested the public and promoted the welfare of the City. In such matters he would lend his influence, give his time, and use his voice and pen. In 1874 he was chosen president of the "Southern Memorial Association" of this City, and delivered a most eloquent oration on the occasion of the reinterring of the remains of the Confederate dead who had fallen during Gen. Early's advance upon Washington. The doctor was a ready and agreeable writer, and frequently availed himself of the daily paper to present views of questions he deemed desirable to have brought to the attention of the public. On medical matters he was punctilious, and whenever he wrote upon these, they were sent to medical journals. All his writings show the scholar and the gentleman. His contributions to medical literature are numerous and valuable, and on a great variety of topics. Dr. Garnett never limited the field of his professional labors to any one branch. He was, and felt himself to be a physician fully equipped and capable to perform good service in any its departments. Of late years, because of his eminence and large experience, he was much sought after by the younger men as a consulting physician. In difficult cases his qualities as a great physician came promptly to the front, for his analytical power in diagnosis, his memory of similar or analagous cases, either in his practice or his reading, and his ever ready resources to supply more effective remedies than had been tried, gave him a leading position.

Dr. Garnett, while in all the affairs of life accorded the greatest possible deference to the opinion of others was himself never neutral or indifferent on live issues. He possessed matured opinions on most subjects, the result of reading and reflection, or would take pains to inform himself and never hesitated to express his convictions on all proper occasions. He was a charming conversationalist, a ready debater, and a polished writer. Dr. Garnett's labor to make the Ninth International Congress a success will long be remembered as they were highly appreciated by the medical profession throughout the world. Throughout the United States his name has been almost a password and shibboleth of ethical honors and of loyalty to the profession. He was from the inception of the project for the International Congress to meet in the United States, a zealous and untiring friend of the movement, and was one of the most active members of the Executive Committee, and as Chairman of the Local Committee of Arrangements acquitted himself with ability and to the entire satisfaction of the Congress and the citizens of Washington. And lastly as a member of the Committee of Publication of the Transactions, which is well nigh completed, he has rendered most valuable servises. He was zealous and loyal to duty, heroic to the last. "The end crowns the work." While in the Navy he was united in marriage to Mary E., eldest daughter of the Hon. Henry A. Wise one of Virginia's great Governors. They had five children who grew to maturity, His wife and two children only survive, Henry Wise Garnett, one of our leading lawyers, and Miss Anne Garnett. The profession and the citizens of Washington will remember the early and lamented death of a son, young Dr. A. Y. P. Garnett, two years ago, who had but just entered upon practice.

The Medical Society of the District of Columbia met in special session, which was largely attended, when resolutions were passed expressive of the loss the Society and community has sustained in the death of Dr. Garnett. Many members spoke feelingly of him, and a sketch of his life was read. Drs. Hagner and Acker described his condition for some weeks before he left the city. Dr. J. B. Hamilton pronounced an admirable and deserved eulogy upon the deceased, which was supplemented by some most eloquent and beautifully expressed sentiments delineative of the character and professional life of Dr. Garnett. The Board of Directors of the Children's Hospital have held a special meeting and passed appreciative resolutions of the character of the doctor, and of his long and valuable services to that institution. Also a special meeting of the Directors of the Central Dispensary and Emergency Hospital has been held, and which took appropriate action to express the sense of the loss and high appreciation of the character of Dr. Garnett. Meetings have been called by other medical insti-

tutions with which he was connected, and will in due time report appreciative resolutions.

The funeral of Dr. Garnett took place on Saturday, July 14, from Epiphany Church, which was filled with former patients and sincere friends, who desired, in some way, to testify their respect for his memory. The services at the church were conducted by the Rev. Dr. Platt, of New York, assisted by the Rev. Dr. Leonard and Rev. Dr. Phelps. Dr. Garnett's remains were followed by a large cortege to their last resting place in "Rock Creek Church Cemetery."

J. M. T.

MISCELLANEOUS.

AMERICAN ASSOCIATION OF GENITO-URINARY SURGEONS.—The following is the preliminary programme of the meeting to be held in Washington September 18, 19 and 20, 1888:

1. Clinical Observations on Diseases of the Testicle. Dr. L. B. Bangs, New York, N. Y.
2. Clinical Observations on Chronic Gonorrhœa, and
3. Two Cases of Cancer of the Seminal Vesicles, with pathological specimens. Dr. J. P. Bryson, St. Louis, Mo.
4. Operative Treatment of Hypertrophy of the Prostate, and
5. Case of Bowel ending in the Urethra of a Child 4 weeks old; Relief by Operation. Dr. A. T. Cabot, Boston, Mass.
6. On the Effects of Rapid Changes of Altitude in an Advanced Case of Interstitial Nephritis. Dr. George Chismore, San Francisco, Cal.
7. Connection between Masturbation and Stricture. Dr. S. W. Gross, Philadelphia, Pa.
8. Operations on the Kidney. Dr. W. H. Hingston, Montreal, Can.
9. Syphiloma of the Vulva. Dr. J. N. Hyde, Chicago, Ill.
10. The Curability of Urethral Stricture by Electricity; an Investigation, and
11. The Comparative Value of Suprapubic and Perineal Drainage in Curable and Incurable Bladder Disease. Dr. E. L. Keyes, New York, N. Y.
12. The Filaria Sanguinis Hominis in the United States, especially in its Relationship to Chylocele of the Tunica Vaginalis Testis. Dr. Wm. M. Mastin, Mobile, Ala.
13. A Case of Perineal Section for Traumatic Retention; Unusual Condition of the Bladder. Dr. J. E. Michael, Baltimore, Md.
14. The Prophylaxis of Syphilis. Dr. P. A. Morrow, New York, N. Y.
15. Unusual Case of Urethral Calculus. Dr. H. G. Mudd, St. Louis, Mo.
16. On the Radical Cure of Stricture by Dilating Urethrotomy, and
17. Demonstration of a Perfected Evacuator, and an Improvement in the Method of Removal of Débris from the Bladder. Dr. F. N. Otis, New York, N. Y.
18. Pyæmia as a Direct Sequel of Gonorrhœa. Dr. R. Park, Buffalo, N. Y.
19. Retrojections in Gonorrhœa. Dr. E. R. Palmer, Louisville, Ky.
20. Prostatotomy for Enlarged Prostate at the Age of 42. Dr. Abner Post, Boston, Mass.
21. A Case of Removal of both Testicles for Recurrent Carcinoma, and
22. A Case of Nephrolithiasis complicated with Hydronephrosis, in which Lumbar Nephrotomy was Performed. Dr. F. W. Rockwell, Brooklyn, N. Y.
23. Some Points on the Differential Diagnosis of Bladder and Kidney Affections, with Demonstrations of the Cystoscope and other Instruments, and
24. On the Physiology of the Bladder. Dr. Alexander W. Stein, New York, N. Y.
25. Local Treatment of Chronic Urethral Discharges. Dr. F. R. Sturgis, New York, N. Y.
26. Some Points on the Etiology of Stricture of the Urethra. Dr. R. W. Taylor, New York, N. Y.
27. Operative Treatment of Hypertrophy of the Prostate, and
28. Spontaneous Fracture of Stone in the Bladder. Dr. F. S. Watson, Boston, Mass.
29. The Relation of the Prostate to Chronic Urethral Discharges, and

The Value of the Tolerance of the Iodides as a Diagnostic of Syphilis, and

30. Urethral Stricture and Enlarged Prostate in their Relation to Vesical Calculus and Calculus Pyelitis, with Cases. Dr. J. William White, Philadelphia, Pa.

By invited guests:

31. The Prognosis of Stricture, based on thirty years' death record of Stricture at the London Hospital and the Practice at St. Peter's Hospital. Dr. E. Hurry Fenwick, London, Eng.
32. The Congenital Anomalies of the External Urethral Orifice. Dr. C. Kaufman, Zurich, Switzerland.

R. W. TAYLOR, Secretary.

THE AMERICAN CLIMATOLOGICAL ASSOCIATION will hold its fifth annual meeting in Washington, D. C., on September 18, 19 and 20, 1888, in connection with the Congress of American Physicians and Surgeons. The following papers and discussions have been arranged for, and others may be added to the list:

The President's Address, Dr. A. L. Loomis, New York; The Relation of High Altitudes to Germ Disease, Dr. S. A. Fisk, Colorado; Is Climate an Etiological Factor in Graves' Disease? Dr. R. G. Curtin, Philadelphia; An Environment Experiment Reported, Dr. E. L. Trudeau, Saranac Lake; Definite Results Obtained by the Climatic Treatment of Disease, Dr. A. Y. P. Garnett, Washington; Invalids Suited for Treatment at Colorado Springs, Dr. S. E. Solly, Colorado; Influence of Semi-Tropical Latitudes on Types of Disease, Dr. Jno. Guitéras, Charleston; Discussion: The Relative Importance of Different Climatic Elements in Treatment of Phthisis. Referee, Dr. E. T. Bruen, Philadelphia; Co-Referee, Dr. V. Y. Bowditch, Boston. Observations on the Use of Terebine, Dr. D. M. Cammann, New York; Climate and Bright's Disease, Dr. J. C. Wilson, Philadelphia. Discussion: The Mineral Waters of the United States; Therapeutic Value as Suggested by their Chemical Composition, Dr. A. C. Peale, Washington; Their Therapeutic Value in Gastro-Hepatic Diseases, Dr. Wm. Pepper, Philadelphia; Their Therapeutic Value in Urinary and Arthritic Diseases, Dr. A. H. Smith, New York; Their Therapeutic Value in Malarial Diseases, Dr. J. C. Van Bibber, Baltimore; Report on Mineral Springs, Dr. C. C. Rice, Chairman, New York; Interpleural Pathological Products; their Cause, Significance, and Special Relationship to Pulmonary Phthisis, Dr. J. R. Leaming, New York; Conditions which Tend to Render the Atmosphere of a Locality Aseptic, J. T. Whittaker, Cincinnati. Discussion: Influence of Altitude on Cardiac and Pulmonary Diseases. Referee, Dr. F. Donaldson, Sr., Baltimore; Co-Referee, Dr. J. J. Levick, Philadelphia. Climatic Characteristics of Texas, Dr. Morse K. Taylor, U. S. A., San Antonio; Therapeutic Differences of Mountain and Sea Air, Dr. W. H. Geddings, Aiken; Indications and Contraindications for Altitude in Treatment of Phthisis, Dr. F. I. Knight, Boston. Discussion of the Nasal and Neurotic Factors in Etiology of Asthma. Referee, Dr. F. H. Bosworth, New York; Co-Referee, Dr. E. L. Shurly, Detroit. Therapy of Climate, Dr. I. H. Platt, Lakewood; Therapy of Ocean Climate, Dr. A. L. Gihon, U. S. N.; Climatic Characteristics of

Roan Mountain, Eastern Tennessee, C. J. Kenworthy, Fla.; Notes of Summer in Switzerland, Dr. D. B. St. John Roosa, New York; An Epidemic of Cerebro-Spinal Meningitis in Central New York; Dr. W. T. Ford, Utica; Further Contribution to the Study of Consumption among the Indians; Dr. W. Matthews, U. S. A.

A. L. LOOMIS, M.D., LL.D., President,
J. B. WALKER, M.D., Secretary.

THE AMERICAN LARYNGOLOGICAL ASSOCIATION will hold its tenth annual Congress in Washington, D.C., on September 18, 19 and 20, 1888. The following is the preliminary programme:

1. Ten Years of Laryngology. Rufus P. Lincoln, M. D., New York.
2. Congenital Bony Occlusion of the Posterior Nares. Charles H. Knight, M.D., New York.
3. The Effects of varying Rates of Stimulation on the Action of the Recurrent Laryngeal Nerve. Franklin H. Hooper, M.D. Boston.
4. Subglottic Laryngeal Enchondroma. E. Fletcher Ingals, M,D., Chicago.
5. A Photographic Study of the Laryngeal Image during the Formation of the Registers, and Production of Variations in the Pitch of the Singing Voice. Thomas R. French, M.D., Brooklyn.
6. Lupus of the Nose, Pharynx and Larynx. Samuel Johnston, M.D., Baltimore.
7. Imaginary Lingual Ulceration. George M. Lefferts, M.D., New York.
8. A possible Substitute for Tracheotomy and Intubation in certain Cases. Edgar Holden, M.D., Newark.
9. Antiseptic Nasal Surgery. Clarence C. Rice, M.D., New York.
10. A Case of Sarcoma of the Tonsil. Alexander W. MacCoy, M.D., Philadelphia.
11. A Case of Subglottic Chronic Stenosis of the Larynx cured by Dilatation. Frank Donaldson, M.D., Baltimore.
12. Internal Œsophagotomy. John O. Roe, M.D., Rochester.
13. The Treatment of Atrophic Rhinitis by the Galvanic Current. J. H. Hartman, M.D., Baltimore.
14. The Anatomy of the Nasal Chambers. Harrison Allen, M.D., Philadelphia.
15. Notes on a Case of Nasal Caries, complicated with Meningitis, successfully treated by means of the Surgical Drill. William C. Jarvis, M.D., New York.
16. On Fixation of one or both Vocal Bands in the Phonatory Position (so-called Abductor Paralysis). F. Donaldson, Jr., M.D., Baltimore.
17. Residence at certain High Altitudes as a means of Cure for Laryngeal Phthisis. Clinton Wagner, M.D., New York.
18. Further Investigations as to the existence of a Cortical Motor Centre for the Human Larynx. D. Bryson Delavan, M.D., New York.

Besides the above titles which have been received to date, papers have been promised by Drs. Morris J. Ash, J. Solis-Cohen, John N. Mackenzie and Beverley Robinson; and by Dr. A. Gouguenheim, of Paris. A number have yet to be heard from. D. BRYSON DELAVAN,
Secretary.

THE AMERICAN PHYSIOLOGICAL SOCIETY will meet in Washington, D. C., September 18, 19 and 20, 1888. The following is a preliminary list of papers:

1. Dr. G. Stanley Hall. On the Therapeutic and Forensic Aspects of Hypnotism.
2. Dr. G. L. Goodale. On Enzymes Comparable with Papain, found in certain fruits of temperate climates.
3. Dr. H. P. Bowditch. On the Knee-jerk Phenomena.
4. Dr. W. P. Lombard. On the Nature of the Knee-jerk.
5. Dr. H. P. Bowditch. On the Effects of Varying Rates of Nerve Stimulation upon the Character of Muscular Movements.
6. Dr. C. S. Minot. Growth and Death.
7. Dr. C. S. Minot. The Cells of the Cortex Cerebri.
8. Dr. C. S. Minot. The Uterus during Gestation.
9. Dr. H. N. Martin. On the Temperature Limits of the Vitality of the Mammalian Heart.
10. Dr. H. H. Donaldson. Histological Changes Produced in Ganglion Cells by Stimulation.
11. Dr. Isaac Ott. On Fever.
12. Dr. W. T. Sedgwick. On the Distribution of Bacteria in Drinking-Waters and Public Buildings.
13. Dr. W. H. Howell The Origin and Regeneration of Blood Corpuscles.
14. Dr. V. C. Vaughan. On certain Ptomaines.
15. Dr. R. H. Chittenden. On the Physiological Action of Uranium Salts.
16. Dr. R. H. Chittenden. On Myosin and certain of its Decomposition Products.
17. Dr. R. H. Chittenden. On the Influence of Acetinilide or Antifebrin on Proteid Metabolism.

H. NEWELL MARTIN, Secretary.

A SANITARY CONVENTION and meeting of Executive Association of Health Officers will be held at Lindsay, Ont., August 14, 15 and 16, 1888.

Passes to Sturgeon Point Hotel will be presented to delegates. Morning and evening boats connect with Lindsay. A citizens' excursion to those attending convention will also be arranged. Sturgeon Point is already a favorite summer resort for tourists and health seekers. It is situated on Sturgeon Lake, twelve miles from Lindsay. Arrangements have been made with the Canadian Pacific and Grand Trunk Railways by which parties signifying a desire to attend will be provided with certificates at a fare and a third upon making application to

P. PALMER BURROWS,
Pres. Executive Ass'n Health Officers.

THE NEW YORK POLYCLINIC HOSPITAL.—The Faculty of the New York Polyclinic have decided to increase the clinical facilities of this institution by establishing a spacious hospital immediately connected with the college building. It will be opened for the reception of patients in October next.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from July 7, 1888, to July 13, 1888.

Major Calvin De Witt, Surgeon U. S. Army, leave of absence extended one month. S. O. 159, A. G. O., July 11, 1888.

Lieut. William B. Banister, Asst. Surgeon, leave of absence extended twenty-seven days. S. O. 157, A. G. O., July 9, 1888.

Official List of Changes in the Medical Corps of the U. S. Navy for the Week Ending July 14, 1888.

Asst. Surgeon Wm. Martin, ordered to Marine Rendezvous, San Francisco, Cal., and to attend officers of the Navy and Marine Corps not otherwise provided with medical aid.

Asst. Surgeon E. W. Auzal, detached from duty at Marine Rendezvous, San Francisco, Cal., and special duty there, and ordered to the Naval Academy.

Official List of Changes of Stations and Duties of Medical Officers of the U. S. Marine Hospital Service, for the Two Weeks Ending July 16, 1888.

Surgeon P. H. Bailhache, to proceed to Delaware Breakwater Quarantine Station as Inspector. July 6, 1888.

Surgeon C. S. D. Fessenden, leave of absence extended thirty days on account of sickness. July 14, 1888.

Surgeon George Purviance, to proceed to Chattanooga, Tenn., as inspector. July 6, 1888.

Surgeon H. W. Sawtelle, granted leave of absence for twenty-three days. July 9, 1888.

Asst. Surgeon W. P. McIntosh, to proceed to Galveston, Tex., for temporary duty. July 14, 1888.

Asst. Surgeon W. J. Pettus, granted leave of absence for thirty days. July 16, 1888.